Internet-based Cognitive-Behavioral Therapy for Complicated Grief

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Abstract

Background: During the last years research has shown that Internet-based psychotherapeutic interventions are effective in a number of areas. Based on a cognitive-behavioral treatment protocol for posttraumatic stress disorder (Interapy, Lange et al., 2000), an Internet-based treatment for complicated grief (CG) was developed and evaluated. **Objective**: A theoretical introduction of CG, bereavement interventions and psychotherapeutic Internet-based interventions is given. A case study illustrates the treatment procedure. The study evaluated the efficacy of this multiphasic treatment model (phases: self-confrontation, cognitive restructuring, social sharing) on grief-related symptoms, symptoms of general psychopathology and salutary outcome. Further, the online therapeutic alliance as a predictor of salutary treatment outcome was evaluated. **Method:** Bereaved individuals with a complicated grief diagnosis (N = 50) were randomly assigned to either the treatment group or a waiting list control condition. The contact between therapist and patient was exclusively via e-mail during the 5-week period of 10 writing-assignments. Pre-, post- and follow-up assessments were conducted. **Results:** Compared with the participants in the waiting control condition, the participants in the experimental group (n = 25) improved significantly on grief-related symptoms and general psychopathology. Overall, between-groups-effect sizes were large, with highest effects being found for avoidance (d = 1.19), intrusion (d = 1.47) and depression (d = .85). Significant Time x Condition effects indicated that personal growth increased during the treatment. However, there was no treatment effect found for optimism. The therapeutic relationship did not influence personal growth significantly over time. These results indicate that this new approach of treatment form for complicated grief is promising.

Zusammenfassung

Theoretischer Hintergrund: In den vergangenen Jahren wurde in einer Reihe von Studien nachgewiesen, dass Internet-basierte Psychotherapien eine wirksame Behandlungsmethode für psychischen Störungen sein können. Basierend auf dem kognitiv-verhaltenstherapeutischen Behandlungsmanual für posttraumatische Belastungsstörungen (Lange et al., 2000) wurde eine Internet-basierte Behandlung für komplizierte Trauer entwickelt und evaluiert. **Untersuchung:** Eine theoretische Einleitung gibt einen Überblick über komplizierte Trauer, Trauerinterventionen, und Internet-basierte Psychotherapie. Anhand einer Fallstudie wird im Folgenden der Behandlungsprozess demonstriert. Die Studie evaluierte die Wirksamkeit dieses drei-phasigen Behandlungsmodelles (Selbstkonfrontation, kognitive Umstrukturierung, soziale Unterstützung) im Bezug auf trauerbezogene Symptome, allgemeine Psychopathologie und salutogenetische Variablen. Des weiteren wurde die therapeutische Online-Beziehung als Prädiktor für die salutogenetischen Behandlungsergebnisse evaluiert. **Methode**: Patienten mit einer Diagnose von komplizierter Trauer (N = 50) wurden randomisiert entweder der Behandlungs- oder der Wartelistengruppe zugewiesen. Der Kontakt zwischen Therapeut und Patient fand ausschliesslich während der fünf-wöchigen Behandlungszeit über E-mail statt. Die Patienten schrieben in dieser Zeit 10 Essays zu festen Terminen. Skalen wurden zur Erhebung der komplizierten Trauer Symptomatik (IES), allgemeiner Psychopathologie (BSI), allgemeinem psychischer und physischem Gesundheitszustand (SF-12), persönliche Reifung (PTGI), Optimismus (LOT-R) und therapeutische Beziehung (WAI) eingesetzt. **Ergebnis:** Die Patienten der Behandlungsgruppe verbesserten sich signifikant gegenüber den Patienten der Wartelistengruppe in Bezug auf Trauersymptomatik, allgemeine Psychopathologie und persönliche Reifung. Insgesamt wurden grosse Behandlungseffekte gefunden: Vermeidung (d = 1.19), Intrusionen (d = 1.47) und Depression (d = .85). Ebenso zeigten sich signifikante Effekte für persönliche Reifung nach Abschluss der Behandlung. Kein Behandlungseffekt konnte für Optimismus gefunden werden und die therapeutische Beziehung beeinflusste nicht die persönliche Reifung. **Schlussfolgerung:** Die Ergebnisse demonstrieren, dass dieser neue Behandlungsansatz für komplizierte Trauer vielversprechend ist.

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Tables and Figures

Included Papers

I. Wagner, B., Knaevelsrud, C., & Maercker, A. (2005). Complicated grief and Internet-based treatment for complicated grief: Concepts and case study. *Journal of Loss and Trauma*, 10, 1-24.

II. Wagner, B., Knaevelsrud, C., & Maercker, A. (2006). Internet-based Cognitive-Behavioral Therapy (INTERAPY) for Complicated Grief: A randomized Controlled Trial. *Death Studies,* 30,5.

III. Wagner, B., Knaevelsrud, C., & Maercker, A. (submitted). Impact of an Internet-based Intervention (INTERAPY) for Complicated Grief on Personal Growth: A Randomized Controlled Trial.

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Abbreviations

APA	American Psychiatric Association
AD	Adjustment Disorder
ASD	Acute Stress Disorder
BIQ	Biographical Information Questionnaire
BSI	Brief Symptom Inventory
CBT	Cognitive Behavior Therapy
CG	Complicated Grief
CGT	Complicated Grief Treatment
D	Effect size (Cohen, 1988)
DPM	Dual Process Model
DSM	Diagnostic and Statistic Manual of Mental Disorders
ICD	International Classification of Diseases
ICG	Inventory of Complicated Grief
ITC	Inventory of Traumatic Grief
IES-R	Impact of Event Scale – Revised
IPT	Interpersonal Psychotherapy
ISMHO	International Society for Mental Health Online
LOT-R	Life Orientation Test-Revised
M	Arithmetic mean („mean“)
MD	Major Depression
MDD	Major Depression Disorder
N	Number of participants
NKCC	Natural killer cell activity
PSQI	Pittsburgh Sleep Quality Index
PTGI	Posttraumatic Growth Inventory
PTSD	Posttraumatic Stress Disorder
RCI	Reliable Change Index (Jacobson & Truax, 1991)
SCID-NP	Structured Clinical Interview for DSM-III-R-Non-Patient Edition
SCL-90	Symptom Checklist-90
SD	Standard deviation
SDQ-5	Somatoform Dissociation Questionnaire

SF-12	Short version of the „Short Form – 36" Health Survey
SSRI	Selective serotonin reuptake inhibitors
TCA	Tricyclic antidepressants
VR	Virtual Reality
WAI-S	Working Alliance Inventory-Short version

1. Overview

Grief following the death of a significant person is considered a very painful experience and is one of the most universal reactions occurring across all age groups and cultures as adaptation to acute life crises. Grief is a highly individualized process with a strong normative component (Cowles & Rodgers, 1991) and has been described as comprising three aspects: to accept the death as real, to cope with the emotional and social problems which are caused as result of the loss (Rognlie, 1989), and to emancipate oneself from the bondage of the deceased (Rando, 1984). However, even though grief is a natural, non-pathological phenomenon, it can lead to complicated grief (CG). Especially when the death occurred in a sudden, violent, or traumatic way this may result in symptoms above and over the normal grief response. CG can result in a variety of symptoms that are shared by psychiatric disorders such as major depression, posttraumatic stress disorder, and anxiety disorders, but it does remain distinct from them. Two research groups have so far proposed diagnostic criteria of CG. Horowitz *et al* (1997) conceptualized CG as a stress response syndrome and differentiated between intrusion, avoidance, and failure to adapt symptoms. Prigerson and colleagues (Prigerson & Jacobs, 2001; Prigerson, Shear et al., 1999) presented the consensus criteria for CG proposed by a consensus panel of experts on symptoms, which include separation and traumatic distress symptoms. However, not only the establishment of CG as distinct mental criteria in the next edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) is an important focus in bereavement research. Another widely discussed issue is the effectiveness of bereavement interventions. There is a widespread assumption that bereavement interventions are beneficial to bereaved individuals. However, recent meta-analyses of bereavement interventions and counseling have concluded that these interventions showed small treatment effect sizes (Jordan & Neimeyer, 2003; Kato & Mann, 1999; Litterer Allumbaugh & Hoyt, 1999; Malkinson, 2001; Rowa-Dewar, 2002; Schut, Stroebe, van den Bout, & Terheggen 2001).

It can be seen that over the last few years bereaved individuals are beginning to be widely represented on the Internet, e.g. with support groups, mailing lists, memory sites, information and chat-rooms. Vanderwerker and Prigerson (2004) demonstrated in their study that 60% of bereaved individuals use the Internet, and

that 50% use e-mail in order to receive social support. This is a parallel development to the ongoing research of Internet-based psychotherapeutic interventions. Lange and his colleagues (2000b) from the University of Amsterdam were one of the first who developed an Internet-based cognitive-behavioral intervention for posttraumatic stress disorder ('Interapy'). Here therapists and patients communicate exclusively online, and the assigned structured writing assignments are tailored to the needs of the patient. This treatment protocol has been evaluated so far in three randomized controlled studies, and the treatment effects are comparable and the same as effective as traditional face-to-face therapies.

For the present thesis a cognitive-behavioral Internet-based treatment for CG was developed and evaluated. The treatment was based and modified on the findings of the *Interapy* intervention for PTSD (Lange et al., 2000b), due to the trauma-like symptoms of avoidance and intrusion in CG. The treatment manual comprised three modules: 1) exposure to bereavement cues; 2) cognitive reappraisal, and 3) integration and restoration. For the development of the manual we applied the current knowledge of previous treatment approaches. The principles of this treatment will be explained throughout this thesis. To examine the efficacy of this new intervention we carried out a randomized controlled trial with bereaved individuals suffering of CG.

The subsequent issues will be covered in the nine chapters of this thesis. In *Chapter 2* the literature and current state of research on diagnostic criteria of CG, as well its distinctiveness from other disorders such as MD, PTSD and AD and the epidemiological prevalence of CG, will be critically reviewed and the theoretical basis of the current study is introduced. Further, current research on personal growth after bereavement and the impact of psychotherapeutic interventions on personal growth is discussed.

Chapter 3 gives an overview of previous empirical research on bereavement interventions and counseling. The current developments and research of therapeutic treatment on the Internet are presented in *Chapter 4*, with a special focus on computerized therapeutic self-help programs, computer-augmented interventions and Internet-based interventions. Special attention is paid to the studies in which the *Interapy* treatment for PTSD has been the central theme of interest. Finally, we

address the role of the therapeutic relationship in online therapies regarding treatment outcome. In *Chapter 5* an overview is given of of the representation of bereaved individuals on the Internet.

Chapter 6 contains a brief review of current bereavement research and describes the principles of the Internet-based intervention for CG. A case study illustrates the course and outcomes of this treatment approach. Excerpts of the patient's essays are cited. In *Chapter 7* the data of the randomized controlled study are presented. We try to answer central questions: Is an Internet-based treatment for CG an effective approach to reduce grief-related symptoms? How good was the treatment satisfaction in an Internet-driven therapy? *Chapter 8* includes data concerning the treatment effects on salutary outcome variables and the impact of the therapeutic relationship on optimism and personal growth.

In the final section (*Chapter 9*) the main findings of the present study are integrated and discussed. We try to answer the question to what extent the present study has increased our knowledge of bereavement interventions and Internet-based psychotherapeutic treatments. Implications for future research and clinical practice are discussed.

The three included articles are presented in this thesis in their original form in *Chapter 6*, *7*, *8*. However, the references from each article have been conflated into one chapter of references (*Chapter 10*). Further, the articles have been published or submitted separately, and therefore some overlap was unavoidable. This study was conducted in cooperation with Christine Knaevelsrud and Andreas Maercker, which is why 'we' is used throughout this thesis.

2. General Introduction

2.1. Diagnostic Criteria of Complicated Grief

Grief reactions following the loss of a significant person often comprise a set of negative symptoms which are expected and involve functional impairment. This process can be still considered as *normal*, even though depression and trauma-related symptoms might occur during this time of adjustment and grief work. However, bereavement can be also associated with a number of complications such as persisting mental and physical impairment, implying distress and disability, which are often distinct from those that are expectable and culturally approved (Lichtenthal, Cruess, & Prigerson, 2005). Therefore is it difficult to distinguish between pathological and normal grief reactions to find consensus. The differentiation becomes even more challenging, since recent studies have shown no proof of stage theories of grief. Grief phases are more likely to overlap with each other rather than consisting of clearly cut stages (Prigerson & Jacobs, 2001; Lichtenthal et al., 2005). One standard to distinguish pathological from normal grief reactions might be a continuum on which normal and pathological grief are placed (Horowitz, 1993). Pathological grief is then a prolongation and deviation of the (cultural) norm (Stroebe, Hansson, Stroebe, & Schut, 2001). Another suggestion for a clinical presentation of normal grief might be best characterized by the absence of CG symptoms (Prigerson & Jacobs, 2001).

As there are no standardized criteria for diagnosis of CG, researchers have started in the last ten years to empirically explore diagnostic criteria to define CG more accurately and to distinguish CG from other existing disorders such as posttraumatic stress disorder (PTSD), major depression disorder (MDD), adjustment disorder (AD), and normal grieving. A number of studies demonstrated that symptoms of CG form a unified syndrome with symptoms which are apparently distinct from PTSD, MDD and AD and support the existence of a diagnostic entity of CG (Boelen & van den Bout, 2005; Horowitz et al. 1997; Prigerson, Frank, et al. 1995). Prigerson and colleagues (1995) found in their study with widowed elderly individuals ($N = 82$) that principal-components analysis revealed a CG factor and a bereavement-depression factor. The CG symptoms included searching and yearning for the deceased, preoccupation with thoughts of the deceased, crying, disbelief regarding the death, feeling stunned by the death, and lack of acceptance of the

death. In a major study Horowitz and colleagues (1997) evaluated bereaved individuals (N = 70) whose spouses had died. The Structured Clinical Interview for DSM-III-R-Non-Patient Edition (SCID-NP), supplemented by 30 grief symptoms, was conducted by clinical interviewers. At 14 months after the loss, 41% of the subjects were diagnosed with complicated grief disorder, while only one-fifth of these subjects also received a concurrent diagnosis of major depressive disorder. In another, more recent, study Boelen et al. (2005) examined bereaved individuals (N = 1.321) who lost a spouse, a child or another significant person. Confirmatory factor analysis replicated the previous findings, showing that CG, depression and anxiety are distinct syndromes.

Yet CG is still not established as a distinct entity in classification systems such as the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*. The need to establish a diagnostic entity is obvious: only if the CG criteria are formally established can research and interventions can be efficiently conducted. Research on prevalence, risk factors and consequences of CG could be facilitated; empirically validated assessment instruments of its symptoms could be developed and specifically designed clinical interventions could be facilitated.

In the past clinicians and researchers described CG by many terms and subtypes such as ‘abnormal’, ‘chronic’, ‘morbid’, ‘pathological’ and ‘traumatic’ grief (Lichtenthal et al., 2004). In the last years two research teams have focused on establishing specific diagnostic criteria for CG (Horowitz, Bonanno, & Holen, 1993; Horowitz et al., 1997; Prigerson, Frank, et al., 1995). Although CG was, from 1997 to 2002, referred to as 'traumatic grief' by Prigerson et al. in the literature, after the events of 9/11 in New York they reverted to CG due to the upcoming misinterpretation of traumatic grief with PTSD (Lichtenthal et al., 2004).

In order to empirically validate symptom criteria for CG two diagnostic systems have recently proposed for the diagnosis of CG (Horowitz et al., 1997; Prigerson & Jacobs, 2001; Prigerson, Shear, et al., 1999). Even though symptoms included overlap, they have distinctive structures, and are scored and valued differently (Forstmeier & Maercker, 2006). The two diagnostic criteria for CG, their findings and their distinctiveness will be described in the following chapter.

2.1.1. Diagnostic Criteria following Prigerson

Prigerson and colleagues (1995) began to evaluate symptoms of CG empirically after they found a distinct cluster of symptoms which form a unified component of emotional distress that is clearly different from depression and anxiety. These results were found in three independent samples of widows and widowers (Prigerson, Bierhals, et al., 1996; Prigerson, Frank, et al., 1995; Prigerson, Maciejewski, et al., 1995). In 1997 a panel of experts met to discuss the advantages and disadvantages of establishing diagnostic criteria, and agreed that there is evidence that CG is a symptom cluster which is distinct from depression and anxiety and which can predict mental and physical impairment. Consensus criteria proposed for CG were defined in two categories: (a) symptoms of *separation distress* (i.e. preoccupation with thoughts of the deceased person, longing and searching for the deceased, loneliness after the loss); and (b) symptoms of *traumatic distress*, such as disbelief about the death; anger and feeling shocked; avoiding reminders of the deceased; feeling purposelessness and futility about the future; feeling that life is empty and unfulfilling without the deceased; having a fragmented sense of trust, security and control (Prigerson & Jacobs, 2001). In a preliminary test of the consensus criteria for CG analyses were conducted on data collected from the San Diego widowhood study (Zisook, Shuchter, & Lyons, 1987) with the Widowhood Questionnaire (Zisook et al., 1987), which covered nearly all the symptoms of the consensus criteria of CG. Receiver operator characteristics (ROC) analyses tested the performance of the proposed criteria on 306 widowed respondents at seven months post loss with a mean age of 61 years (SD = 10.4). Each item was evaluated to determine its ability to identify individuals suffering of true cases of CG. Two items (avoidance and 'difficulty imagining a fulfilling life without the deceased') were deleted and the internal consistency coefficient improved after deletion (Prigerson & Jacobs, 2001). Originally a set of symptoms which persist for more than 2 months would give a marker for dysfunction; later the duration time of disturbance was increased to 6 months (Prigerson, 2005; Latham & Prigerson, 2004). CG at 6 months was more predictive at 13 months impairment. Table 1 shows the refined set of criteria according this consensus expert panel. Based on these diagnostic criteria a widely utilized assessment tool was developed called 'Inventory of Traumatic Grief' (ITG) – later renamed 'Inventory of

Complicated Grief' (ICG)-, which provides a self-report symptom severity score. The study used to test the consensus criteria has a number of limitations, which are important to acknowledge. First, the group of widows and widowers were not entirely random or unbiased: only 34% responded to the initial assessment; people who did not want to participate might have been more distressed than the people who participated. Low mean levels of the proposed symptoms of CG support this case.

Table 1. *Complicated Grief (Prigerson et al., 2001)*

Criterion A
(3 of the 4 symptoms of separation distress below):
1. Intrusive thoughts about the deceased
2. Yearning for the deceased
3. Searching for the deceased
4. Loneliness as result of death

Criterion B
(4 of the 8 symptoms of traumatic distress below):
5. Purposeless or feelings of futility about the future
6. Subjective sense of numbness, detachment, or absence of emotional responsiveness
7. Difficulty acknowledging the death (e.g., disbelief)
8. Feeling that life is empty and meaningless
9. Feeling that part of oneself has died
10. Shattered worldview (e.g., lost sense of security, trust, and control)
11. Assumption of symptoms or harmful behaviors of, or related to the deceased person
12. Excessive irritability, bitterness, or anger related to the death

Criterion C
Duration of the disturbance (symptoms listed) is at least two months

Criterion D
The disturbance causes clinically significant impairment in social, occupational, or other important areas of functioning

Second, two thirds of the spouses lost their partner after prolonged illness, which so far has not been identified as a risk factor for CG. Therefore the sample used to base the consensus criteria on might report biased results. A study conducted by Hogan & Worden (2004) empirically tested the CG diagnostic criteria proposed by the consensus expert panel, which were based only on work with widows and widowers. However, their study was based on bereaved parents (N = 166), who lost their child through car crashes (65%), suicide (15%), homicide (9%)

and illness (7%), or other (4%). The results showed that the basic criteria 'separation distress' and 'traumatic distress' could not be isolated as distinct constructs in confirmatory factor analyses. The conceptualization as a diagnostic entity did not provide an adequate fit of the model.

2.1.2. Diagnostic Criteria following Horowitz

A second group of researchers (Horowitz, 1993; 2001; Horowitz et al., 1997) have published parallel criteria for CG disorder (Horowitz et al. 1997), based on the stress response theory. According to Horowitz, CG disorder has a generic relationship to PTSD and acute stress disorder (ASD), resulting from exposure to a stressful event. In a study (Horowitz, Marmar, Weiss, de Witt, & Rosenbaum, 1984) they first showed that symptoms of prolonged grieving result in the following symptom cluster: intrusion, avoidance, and failure to adapt to the loss (see Table 2). Later, Horowitz and his colleagues (Horowitz et al. 1997) published criteria for CG disorder and constructed operational definitions of these symptoms. This CG module (Horowitz et al., 1997) comprised 30 items, which include the following symptoms: intrusions (e.g. unbidden memories; frequent reminiscences of life with the deceased), avoidance (e.g. avoiding places that remind of the deceased) as well as maladaptive behavior (feeling alone or empty; trouble sleeping). The symptoms should persist longer than 14 months after the loss. In the event of CG, intrusions manifest themselves in the recurrent realization of the absence of the lost relationship, leaving a painful reminder of the empty space left by the deceased. An additional form of intrusion has also been identified: the bereaved person may willfully indulge in positive memories and images of the deceased to the extent that it becomes a problem to the process of re-orientation in the here and now. Therefore the positive and negative memories and images of the deceased may interfere with assessment of the grief process. Avoidance manifests itself in various ways: in staying away from places or people; in avoiding talking about the deceased in the family that serve as a reminder of the deceased; the third criterion, namely failure to adapt, may be observed in the bereaved person’s manner to conduct work, social functioning and relationships. Recent research has found evidence for the stress response operationalization of CG (Langner & Maercker, 2005; Tomita & Kitamura, 2001).

Table 2. *Complicated Grief (Horowitz et al., 1997)*

3 of the 7 symptoms below:
A. Intrusive symptoms:
1. Unbidden memories or intrusive fantasies related to the lost relationship
2. Strong spells or pangs of severe emotion related to the lost relationship
3. Distressingly strong yearnings that the deceased were there
B. Avoidance symptoms
4. Excessive avoidance of people, places, or activities that remind the subject of the deceased
5. Lost interest in work, social, caretaking, or recreational activities to a maladaptive degree
C. Failure to adapt
6. Feelings of being far too much alone or personally empty
7. Unusual levels of sleep disturbance
D. Diagnosis at least 14 months post-loss

Langner and Maercker (2005) examined a sample of 75 participants who had lost their children, parents or spouses using the stress response model of CG (Horowitz et al., 1997). The authors could confirm the classification of the symptoms into intrusion, avoidance, and failure-to-adapt categories. ROC analyses indicated high diagnostic accuracy and showed predictive validation to standard measures of distinct disorders and normal grief reactions.

2.1.3. Comparison of the Diagnostic Approaches

Both Prigerson, Shear et al. (1999) and Horowitz et al. (1997) emphasize the impairment of social functioning, and severe symptoms of separation distress, which Horowitz *et al*. characterizes as intrusive symptoms. The Horowitz group and the consensus panel of experts have proposed a similar set of criteria independently. However, there are differences which are important to acknowledge such as the symptom of avoidance; sleep disturbances; functional disturbance and the time relationship to the death.

While avoidance is one of the core symptoms of the criteria set of Horowitz *et al.,* Prigerson and Jacobs (2001) omitted the symptom of avoidance due to low specificity and item-total correlation in order to increase the diagnostic accuracy of the *traumatic stress* set. Raphael and Martinek (1997) support these findings, which

observed that bereaved people wish to avoid reminders of the absence of the deceased person, while people with PTSD avert reminders of the trauma. While Kaminer and Lavie (1993) suggest that avoidance can be an adaptive way of coping with the loss, some theorists (e.g. Horowitz, 1986) claim that grief reactions persist if the emotional processing and adjustment is prevented due to avoidance behavior. The symptom of avoidance can interfere with the integration of the death of a close person into existing schemas and the development of new schemas (Horowitz et al., 1993). Research shows that there is increasing evidence of avoidance processes in CG (Boelen, van den Bout, & van den Hout, 2003; Langner & Maercker, 2005; Schut, de Keijser, van den Bout, & Dijkhuis, 1991). Boelen et al. (2003) evaluated 234 bereaved individuals who had been confronted with the death of a close relative, looking at the role of negative interpretations of grief reactions in emotional problems after bereavement. They reported that avoidance behavior is significantly related to the severity of CG and depression. The degree to which mourners experience their grief reactions as distressing influences the degree to which they engage in avoidance strategies that are likely to impede recovery and prolong grief reactions.

Another unique symptom of the diagnostic criteria of Horowitz *et al.* is interference with sleep, while sleep disturbances, presumably reflecting hyperarousal, was also omitted from the consensus criteria. The reason for this decision was a sleep study with 65 recently bereaved people over 60 with varying levels of CG symptoms (McDermott, Prigerson, & Reynolds, 1997). The CG symptoms were associated with mild subjective sleep disturbance but there were no main effects on electroencephalographic (EEG) sleep measures. However, newer studies show that people suffering of CG grief actually show poor sleep quality (Forstmeier et al, 2006; Germain, Caroff, Buysse, & Shear, 2005). Germain et al. (2005) showed in a sample of 105 adults suffering of CG that CG is strongly associated with poor sleep quality. The mean age was 45.9 years and 43% had experienced at least one loss through violent death. The participants obtained a mean global Pittsburgh Sleep Quality Index (PSQI) score of 9.44. An obtained PSQI score < 5 indicates minimal sleep disturbances. The presence of comorbid MDD further decreased sleep quality and sleep efficacy. Comorbid PTSD did not worsen the sleep quality. Another study (N = 815) examined insomnia in bereaved

college students (Hardison, Neimeyer, & Lichstein, 2005) and found that trouble falling asleep or dreaming about the deceased was highly correlated with scores on a measure of CG. The rate of insomnia was significantly higher (22%) in the bereaved sample than in the non-bereaved control group (17%). Another difference of the symptom structure regards the disturbance item. The item 'loss of interest in work, social, caretaking, or recreational activities' is one of 4 items of the avoidance and failure to adapt category of the Horowitz *et al.* criteria. Prigerson *et al.* propose that 'impairment in social, occupational, or other important areas of functioning' is necessarily present.

In addition to these differences the two criteria also differ with regard to the time relationship to the death. Horowitz et al. (1997) specify that the diagnosis should not be made before 14 months post-loss. Latham and Prigerson's (2004) proposed duration of symptoms is at least 6 months.

Nevertheless, only one study has empirically evaluated and compared the two proposed diagnostic criteria. In a sample of 570 elderly people (ranging in age from 65 to 96), using the data of the Zurich Older Age Study, Forstmeier and Maercker (2006) assessed the two diagnostic systems and compared them with regard to prevalence, conditional probabilities, sensitivity and specificity. The prevalence of the diagnostic systems differed widely: 4.2% (n = 24) when using the Horowitz et al. criteria, and 0.9% (n = 5) when using the Prigerson et al. criteria. There was only a low overlap between the systems. Only 0.3% received both diagnoses. The conditional probability of getting CG after experiencing bereavement is 22.2% when using the Horowitz et al. criteria and 4.6% when using the Prigerson et al. criteria. With regard to the relationship to the deceased, context of death, and comorbid PTSD, there was no significant difference between the two diagnostic criteria. LCM analyses indicated that the Horowitz et al. criteria set has the highest sensitivity (.69 vs. 31), while the specificity was good in both diagnostic systems (.98 and 1.0). It has become clear that outcomes can vary widely, and are dependent on the criteria system used. In this study use has been made of the Horowitz et al. diagnostic criteria.

Irrespective of the differences of the two proposed diagnostic criteria they also show a great similarity, which provides a framework for diagnosis and

integrating the two proposed criteria sets. Further research and studies are needed to investigate the validity of CG disorder as a diagnosis, and verification of the validity of the diagnostic criteria is warranted before declaring this phenomenon appropriate for inclusion in standardized psychiatric taxonomies.

2.2. Distinctiveness from other disorders

The establishment of diagnostic criteria for CG asks for a 'gold-standard', which is not only able to detect those who are not experiencing 'normal' grief, but also those who suffer of distinct disorders. After the death of a significant person most people experience a wide variety of symptoms such as sadness, loss of interest in activities, intrusive thoughts, but also meet criteria for disorders such as MDD (Maercker et al., 2006); Zisook, Shuchter, Sledge, Paulus, & Judd, 1994), PTSD (Schut et al., 1991) and other anxiety disorders (Jacobs et al., 1990). Zisook et al. (1994) evaluated widows and widowers ($N = 350$) for depressive symptoms at 2, 13 and 25 months after the death of their spouse. The results showed that one third of subjects reported subsyndromal symptomatic depression (SSD) and MD 2 months after their spouses' death. 28% continued having SSD after 12 month of bereavement and 9% worsened in this 12-month period. Similar results were found by the evaluation of the Zurich Old Age Study (Maercker et al., 2006). A random sample of older people ($N = 570$) showed that 23.1% patients with MD also have CG. To examine PTSD in the first year of conjugal bereavement Schut et al. (1991) evaluated the data of 128 conjugally bereaved in a two-year longitudinal study. They found that only 50% of the participants did not meet the criteria of PTSD at any time, and 9% met the criteria during all data collection points during the two years.

Therefore CG had been often subsumed under other disorders, even though bereavement, depression or trauma do not always overlap, and the unique symptoms of CG are not captured by the symptom criteria of these disorders (Lichtenthal et al. 2004). There seems to be a unique entity of CG, which partly overlaps and is closely related to bereavement-related depression, anxiety and PTSD. The high comorbidity with these disorders adds to the considerable confusion over the precise nature of symptoms that constitute a CG reaction. The following chapters will

describe the particular relationship of CG with other distinct disorders, such as PTSD, MD and AD.

2.2.1. Complicated Grief and Posttraumatic Stress Disorder

The interaction between trauma and bereavement has been described with several positions in the scientific community (Stroebe, Schut, & Finkenauer, 2001). One position focuses on the phenomenology of the bereavement reaction rather than on the type of stressor and proposes that trauma and bereavement are distinct (Pynoos, Nader, Frederick, Gonda, & Stuber, 1987; Raphael & Martinek, 1997). Other groups suggest that bereavement should be considered a traumatic event, and that therefore CG can be subsumed under PTSD (Figley, Bride, & Mazza, 1997; Simpson, 1997). Another research group proposed that the diagnostic criteria 'traumatic grief' should be developed based on the nature of the death event (Green, 2000; Rando, 2000). The final position is the focus of recent research on CG, which posits that CG can occur as consequence of both traumatic and nontraumatic bereavement (Horowitz et al., 1997; Jacobs, 1993; Prigerson & Jacobs, 2001). Even though PTSD and CG can have common precipitating events, when the death is caused in a violent or traumatic way the response to the stressor can be different. Bereavement reactions involve for example distinct anxiety reactions. Traumatized individuals are typically anxious about the threat experienced with the traumatic event, whereas bereaved individuals experience separation anxiety (Stroebe et al., 2001). A sense of safety is often challenged after experiencing a trauma, while this does not typically occur with bereaved people. The core symptoms yearning, pining, feeling sad and lonely are also not necessarily experienced after trauma. Similar symptoms of the two disorders are for example intrusive thoughts, even though they appear to be qualitatively different. Intrusions of PTSD involve negative and distressing memories of the traumatic event and related memories (Horowitz et al., 1993), whereas CG intrusions are typically of the deceased person and can be also experienced as positive and comforting. These positive and treasured memories can be permitted to such a degree that they have maladaptive qualities and prevent the bereaved person from re-orientation (Horowitz et al., 1993). Bereaved individuals can also experience the symptom of avoidance in different ways than traumatized individuals. Traumatized individuals typically avoid reminders of the traumatic

event, whereas bereaved people might avoid places, people and conversation related to the deceased person, but also seek out reminders (Stroebe et al. 2001). Even though CG shares common features and some symptoms with PTSD, it is not isomorphic with it (Enright & Marwit, 2002; Prigerson, Shear, et al., 1999). One important distinction is the separation distress component. Yearning and searching for the deceased, intrusive thoughts about and longing for the deceased and the loss of the person are often the source of distress.

Several studies have demonstrated that there is little agreement between diagnosis of PTSD and CG (Maercker et al., 2006; Momartin, Silove, Manicavasagar, & Steel, 2004; Prigerson & Jacobs, 2001; Prigerson, Jacobs, Rosenheck, & Maciejewski, 1999; Silverman, Johnson, & Prigerson, 2001). For example Silverman and colleagues (2001) found in their study of bereaved spouses (N = 85) that 18% met the criteria of CG and 7% met the criteria of PTSD at 4 months after their loss. Similar results were found in the Zurich Old Age Study (Maercker et al., 2006). Here, no patient with PTSD also had CG. Momartin et al. (2004) conducted a study with Bosnian refugees (N = 126), who experienced particularly tragic losses. Most of the losses occurred either in public, or in concentration camps in the form of murder and torture, witnessed by relatives and friends. More than the half of the participants showed PTSD, whereas only widowhood was associated with CG. Nevertheless, PTSD was unrelated to CG, a finding which might support evidence that the syndromes are for the most part distinct.

2.2.2. Complicated Grief and Depression

Grief often involves depressive symptoms, and therefore distinguishing MDD and CG is difficult, because of the assumption that they might potentially co-occur. Nevertheless, a number of research groups have shown that MDD has a different clinical course than CG (Boelen & van den Bout, 2005; Prigerson & Jacobs, 2001; Prigerson, Frank et al., 1995). Prigerson, Frank et al. (1995) showed that CG could be distinguished from bereavement-related depression in a sample (N = 82) of recently widowed elderly. A principal-components analysis revealed a CG factor and a bereavement-depression factor. In a different sample with bereaved people after the death of a first degree relative (partner, parent, child, or sibling) the

findings could be supported (Boelen & van den Bout, 2005; Boelen, van den Bout, & de Keijser, 2003). The symptoms of CG, depression and anxiety clustered in three distinct factors. Horowitz et al. (1997) also observed that CG and MDD symptoms often do not overlap, and distinguished the symptom cluster intrusion, avoidance and maladaptive behavior from symptoms of MDD. In a sample of 70 subjects at 14 months after the loss, 41% of the subjects were diagnosed with CG disorder, while only one-fifth of these subjects also received a diagnosis of major depressive disorder.

MDD also shows different feature patterns than CG (Enright & Marwit, 2002; Prigerson & Jacobs, 2001). For example the electro-encephalographic (EEG) does not report sleep physiology seen in depression (McDermott et al., 1997). Additionally, symptoms of CG have been mainly unresponsive with tricyclic antidepressants (Jacobs, Nelson, & Zisook, 1987; Pasternak et al., 1991; Reynolds et al, 1999). Jacobs (1987) observed an association between separation distress and urinary free cortisol and plasma growth hormone, which were not found with symptoms of depression. These findings can suggest that the underlying physiologies of CG are distinct to that of depression. Nevertheless CG and depressive symptoms are frequently comorbid: Melhem and colleagues (2001) reported that 52% of individuals diagnosed with CG (N = 23) had a current diagnosis of MDD and 30% for current posttraumatic stress disorder. These results should alert clinicians and researchers to the frequency of co-occurrence of MDD among individuals with diagnosed CG. Therefore the treatment of both is here of importance, since studies have shown that treating depression symptoms with the antidepressant nortriptyline did not affect CG symptoms (Melhem et al., 2001; Zygmont, Prigerson, & Houck, 1998).

2.2.3. Complicated Grief and Adjustment Disorder

Even though CG could be subsumed under AD by its first criterion for diagnosing AD according to the DSM-IV-TR (2000), which requires symptoms developing in response to a stressor occurring in the last 3 months, a diagnosis would be still not appropriate. The first disproof would be that criterion D of the diagnostic criteria for AD states that the symptoms cannot be a consequence of bereavement (American Psychiatric Association, 2000; Lichtenthal et al., 2004).

Additionally, research has demonstrated that the specific symptoms of CG are not described sufficiently with AD (Prigerson & Jacobs, 2001) and are too unspecific (Horowitz et al., 1997). Further, there is a stipulation that AD should resolve within 6 months of the onset of the stressors, which is contrary to findings that CG symptoms can last for years. However, although the diagnostic criteria for AD are defined in the DSM-IV-TR (2000), research has shown that the present diagnostic criteria can be considered ill-defined. An alternative conception of AD (Maercker, Einsle, & Köllner, 2004) suggested that adjustment disorders are characterized by the central symptoms of intrusion, avoidance and failure to adapt. This proposal originates from the work of Horowitz (1997), who included adjustment disorders in the group of stress response syndromes, along with PTSD, acute stress disorder (ASD) and CG. It is assumed that AD is triggered by an identifiable stressor event. The relevance of these findings with regard to distinguishing it from CG needs further research.

2.3. Epidemiological Results for Complicated Grief

Reviewing the literature on CG, the question arises of how high the prevalence of CG can be estimated. The available research shows evidence that only a small minority of bereaved individuals experience complicated forms of grieving. Several studies have examined the prevalence of CG and revealed different results not only regarding the sample, but also with respect to the diagnostic system which had been chosen as measurement. Byrne and Raphael (1994) showed in a longitudinal study of widowed men ($N = 78$) that the prevalence of CG at 13 months post-bereavement was 8.8%. Silverman et al. (2001) found that 18% of conjugally bereaved individuals ($N = 85$) met criteria for diagnosis of CG. Horowitz et al. (1997) evidenced in a 14-month sample ($N = 70$) of widows and widowers between the ages of 21 and 55 years a prevalence of 41% of diagnosis with CG. Further findings regarding prevalence report the following studies with different samples: Prigerson and co-workers found a prevalence of 20% in a clinical sample (Prigerson, Bierhals et al, 1997), and 34% in psychiatric patients ($N = 151$) in Karachi, Pakistan, where 83% of the participants had experienced violent deaths (Prigerson, Ahmed, et al, 2002). The Zurich Older Age Study ($n = 712$) is the first study on prevalence of CG in a non-clinical sample of the elderly so far (Maercker

et al, 2006). Using the two diagnostic systems as measurements the results show very different prevalence rates: 4.2% when using the Horowitz et al criteria and 0.9% when using the Prigerson et al. consensus criteria.

The probability of CG to some extent seems widely to depend on the sample (clinical vs. normal) and on the diagnostic criteria system used for estimate the prevalence.

2.4. Personal Growth and Bereavement

The death of a significant person emphasizes painful emotions, and often bereaved individuals suffer of impaired psychological and physical functioning. However, despite of this negative impact, the death of a family member or a friend can also give the impetus for personal growth (Tedeschi & Calhoun, 1995; Tedeschi, Park, & Calhoun, 1998). Many bereaved individuals show enhanced resources, especially regarding wisdom, maturity, religious beliefs and changes of life perspectives (Kessler, 1987). Often they feel more independent, emotionally stronger and gain strength through the fact that they have to handle new responsibilities. Aspects of fragility and vulnerability became more present and the own future appears less predictable. Those individuals who are able to find meaning, especially after the death of a child, become stronger or deepen their spirituality to better cope with the loss (Davis, Nolen-Hoeksema, & Larson, 1998). Schaefer and Moos (1998) believe that individuals who successfully adapt to bereavement are more likely to experience personal growth. The search of meaning and significance is central to the process of readjustment after the loss of a loved person (Neimeyer, Prigerson, & Davis, 2002). According to Neimeyer (2004), personal growth can be described as a form of meaning reconstruction in the wake of crises and loss. The literal use of narrative strategies, such as writing about traumatic events or the loss of a significant person can promote integration and transcendence of tragic transitions (Neimeyer, 2004) into personal growth.

Only a few studies, mainly treatment programs for breast cancer patients, evaluated the effect of psychotherapeutic intervention on personal growth (Antoni et al., 2001; Kissane et al. 2003; Mc Gregor, Antoni, Boyers, Alferi, Blomberg, & Carver, 2004; Cruess, et al., 20009. In a study with $N = 100$ breast cancer patients Antoni et al. (2001) tested the effects of a 10-week group cognitive-behavioral

stress management intervention. Beside the reduction of depressive symptoms, the intervention also increased aspects of personal growth and generalized optimism. Very little empirical evidence exists concerning the effect on bereavement interventions on personal growth. So far no study evaluated the impact of a bereavement intervention specifically on personal growth. Existing empirical evidence exists only on more general variables such as changes in meaning-related goals (Bower, Kemeny, Taylor, & Fahey, 2003; Yalom & Liebermann, 1991).

3. Bereavement Interventions and Counseling

In the last years an increasing number of grieving treatments have been developed and evaluated, in the form of individual and group therapies and support groups, with various theoretical backgrounds. Since the majority of bereaved individuals not only grieve normally, but also achieve and experience personal growth through the loss (Tedeschi & Calhoun, 1995; Schaefer and Moss, 1998), a number of researchers suggest that there is no necessity for routine therapeutic intervention for bereaved individuals, as grief itself is not a disease but part of human nature. This chapter provides an overview on bereavement interventions and meta-analyses and addresses the question whether bereavement interventions are effective and to whom should they be aimed at. There is a specific focus on cognitive-behavioral techniques and writing therapies. A short description of the only treatment of CG specifically so far will be given at the end of this chapter.

3.1. Meta-analyses of Bereavement Interventions

A number of meta-analyses and reviews of published and unpublished bereavement treatments (Kato & Mann, 1999; Litterer Allumbaugh & Hoyt, 1999; Neimeyer 2000; Malkinson, 2001; Rosner, Kruse, Hagl, 2005; Rowa-Dewar, 2002; Schut et al., 2001) describe the results of preventive interventions, interventions for high-risk groups, individual and group therapies, bereavement interventions for bereaved parents, and cognitive-behavioral related treatments. It had been widely assumed that bereavement interventions are beneficial to bereaved individuals, but most of these studies show an overall relatively small weighted mean effect size ranging from .11 to .43 from pre- to postmeasurement. This effect is moderate by

Cohen's (1988) standards for research in behavioral sciences, and is small relative to the .80 effect size of other forms of psychotherapy (Lambert & Bergin, 1994). A high number of studies have been excluded for various reasons: Interventions that are largely methodologically flawed, bereavement theories with unspecified tests, treatment and control groups without random assignment of bereaved individuals, and incoherent inclusion criteria due to a lack of commonly agreed DSM-IV criteria (Kato & Mann, 1999).

Because grief reactions are expected to abate over time, treatment-control comparisons might yield a smaller effect size. A large number of studies in all meta-analyses have been excluded because the sample size was too small to detect statistical significant difference between control and treatment groups (Cohen, 1988). The results of these various studies show that the overall benefits of bereavement interventions are small and that the longer the CG process continues, the better the chance to obtain positive results (Schut et al., 2001). Especially highly distressed bereaved mothers seem to benefit from a psychological bereavement intervention (Murphy et al., 1998; Murray, Terry, Vance, Battistutta, & Connolly, 2000). Murphy and colleagues (1998) assessed the efficacy of a 10-week intervention with cognitive-behavioral techniques for bereaved parents ($N = 261$) who lost their child due to accidents, suicide or homicide. The intervention included emotion and problem-focused coping strategies, psycho-education and skill building support. The result revealed no benefit for parents as whole, but mothers with high levels of distress (high risk) showed significant improvement of complicated grief and posttraumatic stress symptoms. Similar results were found in a study by Murray et al. (2000) who also found that high risk bereaved parents ($N = 144$) could reduce successful distress after participating a bereavement intervention, which focused specifically on parental distress following infant death at 14 months posttreatment. Noteworthy are also the findings that an intervention which takes place soon after the loss, can even be harmful and may lead to negative results (Polak, Egan, Vandenbergh, & Williams, 1973, 1975; Williams, Lee, & Polak, 1976). Existing evidence from scientifically controlled outcome trials suggests that grief therapy for normal bereavement is difficult to justify and a 'normal' griever might fare better in a no-treatment group (Neimeyer, 2000). Psychological support after the death of a

close person might disturb the natural social support system of family and friends which otherwise would develop.

Litterer Allumbaugh & Hoyt (1999) conducted a detailed meta-analysis from 35 published and unpublished studies. The weighted aggregate effect size was d = .43. Unfortunately, they included several uncontrolled one-group studies, which could have inflated the effect sizes of the therapies studied. The examination of moderator variables showed that more highly trained practitioners yielded a better result particularly when compared to non-professional therapists, and that individual therapies are more beneficial than group therapies. Further, patients who are self-identified and who are seeking help showed better effect sizes than those who were recruited for the study.

Kato & Mann (1999), in their review of bereavement interventions, concentrated on the difference between individual and group interventions and found that neither kinds of intervention showed a helpful effect. Random assignment to treatment and control groups was the selection criterion. The global effect size across all types of variables of the 13 reviewed psychological interventions was .11. The average effect size on measures of depression and grief was .05 and for other psychological symptoms .09, and are not even large enough to be qualified as 'small'. Kato & Mann (1999) concluded that "the effect sizes for these studies suggest that psychological interventions for bereavement are not effective interventions" (p. 293). The authors assumed that either the interventions themselves are not powerful enough (e.g. too few sessions), or methodological problems might mask the positive effects of the interventions.

The third quantitative review of bereavement interventions was published by Jordan & Neimeyer (2003). Jordan & Neimeyer (2003) analyzed 23 randomized controlled studies and found a small mean effect size of .13. Problematic was the analysis for treatment-induced deterioration. About 38% of patients who received grief counseling would theoretically have fared better if assigned to the no-treatment group. In a follow-up analysis, they discriminated between studies which offered treatment for persons who were traumatically bereaved, and those that concentrated on 'normal' bereavement reactions. A noteworthy difference could be found: interventions for normal grievers had essentially no positive effect on any variable with d = .06, whereas the therapies aimed at patients suffering of CG showed a

reliable positive effect with d = .38. Additionally, the authors found that higher levels of risk (sudden violent death or evidence of complicated grief), younger age of the participants, and greater length of time since the death improved the effect sizes for the bereavement interventions.

Schut and colleagues (2001) published the most recent review of bereavement interventions, and critically query meta-analyses of bereavement interventions because of the enormous theoretical and conceptional differences of these studies. They showed in their narrative review of efficacy studies the difference of effects of primary preventive interventions, preventive interventions of high-risk groups, and the treatment individuals who suffer from symptoms of complicated grieving. Much like Kato & Mann's (1999) conclusions, the results of the interventions disclose methodological weaknesses and few beneficial effects (Levy, Derby, & Martinkowski, 1993; Polak et al. 1973, 1975; Sabatini, 1988); in some studies even negative effects were reported (Lieberman & Yalom, 1992; Lund & Caserta, 1992). The Secondary Preventive Interventions for high-risk groups (e.g. high levels of distress, traumatic loss, loss of a child) also produced ambivalent results (Murphy et al., 1998): The effects were modest, and either the improvements were only temporarily, or no positive results at all could be found (Videka-Sherman & Liebermann, 1995). The Tertiary Preventive Intervention for individuals suffering higher levels of distorted and prolonged grieving symptoms seems to show more beneficial effects (Mawson, Marks, Ramm, & Stern 1981; Sireling, Cohen, & Marks, 1988; Brom, Kleber, & Defares, 1989).

A number of interventions feature pharmacotherapy (Jacobs et al., 1987; Pasternak et al., 1991; Reynolds et al., 1999; Shear, Frank, Houck, Reynolds, 2005; Warner, Metcalfe, & King, 2001; Zisook, Shuchter, Pedrelli, Sable, & Deaciuc, 2001; Zygmont et al, 1998). These studies targeted adults who used a variety of psychopharmaca including tricyclic antidepressants (TCA), selective serotonin reuptake inhibitors (SSRI), bupropion and benzodiazepines. The results show an overall significant positive effect of medication on symptoms of depression and sleep quality, as long the subjects continue to receive pharmacotherapy (Forte, Hill, Pazder, & Feudtner, 2004). However, most of the studies report no improvement on grief related intensity as measured by symptoms of grief (i.e. Texas Revised Inventory of Grief, inventory of Complicated Grief). Only one study (N = 95) of the

above found that patients taking antidepressants had better response rates for complicated grief therapy (Shear et al., 2005), compared with patients not taking antidepressants. These effects were even more pronounced for patients receiving interpersonal therapy (2.1 times the response rate of those not taking medication). Details of the kind of medication used by the patients were not described.

These reviews suggest that women, high-risk groups, bereaved individuals who survived sudden traumatic loss and mourners suffering already of complicated forms of grieving benefit more from bereavement interventions than men, low-risk groups and bereaved people who lost a person due to expected death or recent loss. There is sufficient evidence to indicate that general bereavement interventions targeted at a general population which are not high-risk mourners are likely to be unnecessary and can even be harmful.

The question arises why grief interventions mostly fail to be effective? Among various possible conclusions that may be drawn one might be that most bereaved individuals may not need grief interventions and uncomplicated forms of grief are normally self-limiting. Referring to the findings of the Tübingen Bereavement Study (Stroebe, Stroebe, Abakoumkin, & Schut, 1996) Stroebe, Schut and Stroebe (2005) argue that *emotional loneliness* is the most common emotional difficulty bereaved people suffer - missing the deceased person and feeling alone, even when in company of friends and family. They assumed that this type of loneliness only abates with time and that a bereavement intervention might therefore fail to enhance the bereavement process.

Another important aspect with respect of the efficacy of bereavement interventions is the timing of the intervention. Neimeyer (2000) found that interventions which took place too soon after the death showed significant smaller effect sizes. Therefore a time frame of a 6-18 month period following the loss may be most effective (Jordan & Neimeyer, 2003). This is the time when CG can be diagnosed. Another likely explanation for the failure to find significant effects is the lack of theoretical foundation and a theory-based treatment protocol in most studies reviewed in these meta-analyses. Kato & Mann (1999) question if the experience of bereavement is simply too intense to be impacted by a psychological intervention. Future developments of interventions should specifically aim at high-risk mourners

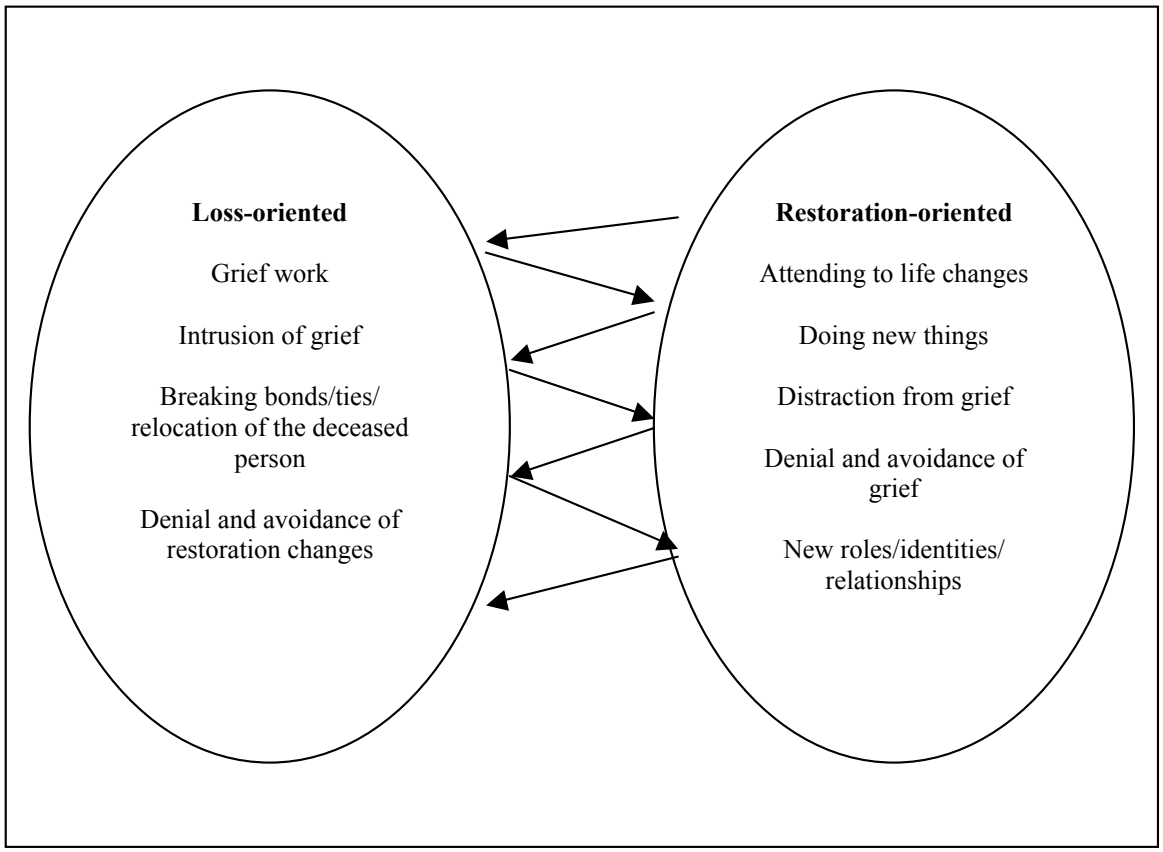
(bereaved mothers, suicide survivors, violent losses, etc) and should be based on theoretical frameworks.

3.2. Cognitive-Behavioral Interventions

Since the concept of 'grief work' has been developed (Freud, 1917), there was for decades a general assumption that the bereaved needs to confront and express their feelings in order to experience 'resolution', which means that the link to the deceased is detached and the bereaved individual is essentially 'let free' from the deceased. However, research shows that the hypothesis of 'grief work' is not sufficient to explain the process of healthy adaptation to loss (Matthews & Marwit, 2004; Stroebe & Schut, 1999). Recovery from loss is not only marked by detachment from the deceased, but also by the integration of the deceased person into the ongoing life of the mourner (Klass, 1999; Klass, Silverman, & Nickman, 1996; Matthews & Marwit, 2004). Additionally, changes to the assumptions about the world need to be made (Stroebe et al., 2005). This is in line with more general cognitive theories of coping traumatic events, which suggest that one important issue in coping is the understanding of the event: *a search for meaning* (Janoff-Bulman, 1992; Neimeyer, 2001; Stroebe et al., 2005).

An important analytic framework to analyze the dynamics of cognitive processing and coping is proposed by the Dual-Process Model (DPM; Stroebe & Schut, 1999), where the bereaved individual sometimes confronts and at other times avoids the cognitive processes in mourning (Znoj, 2004). Two types of coping are identified by the DPM: *loss-orientated coping* and *restoration-orientated coping* (Figure 1). *Loss-orientated coping* focuses on the aspects of the loss itself, such as longing and yearning for the deceased person and crying about the death, while *restoration-oriented coping* refers to regaining mastery of the new life without the deceased. The focus lays here particularly in the reorganization of life and development of new identities. The DPM describes a continual oscillation between loss- and restoration-oriented coping. Grief is in this model described as a process, which oscillates between the experiencing of pain of the loss and a process of searching for alternatives to the life without the deceased.

Figure 1. *Dual Process Model of Coping with Bereavement (Stroebe & Schut, 1999).*



On the basis of this conceptualization of coping with grief, cognitive-behavior therapy (Beck, 1964) seems to be a fitting intervention for individuals suffering of CG. First, it recognizes that bereaved people suffering of bereavement cues need to confront themselves to bereavement-eliciting stimuli (Matthews & Marwit, 2004). Further *restoration-orientated* coping facilitates restructuringand rebuilding previously held assumptions and beliefs. The loss of a significant person can have a profound impact on a person's assumptive world (Janoff-Bulman, 1992) and the cognitive structures and schemata about the self (Beck, 1976). A death often requires cognitive reorganization and modification of one's knowledge and feelings. CG is often seen as a negative emotion related to and maintained by maladaptive cognitive processes (e.g. 'If I enjoy my life now, I will forget my son') and distorted thinking (Malkinson, 2001). Therefore cognitive-behavioral therapies (CBT) can be effective in modifying these maladaptive behaviors with the use of cognitive and

behavioral techniques, such as guided imagery, prolonged exposure techniques, thought stopping, cognitive restructuring (Foa & Rothbaum, 1998), and skill acquisition.

A number of studies have examined the efficacy of cognitive-behavioral intervention techniques for bereaved individuals. Malkinson's (2001) review of cognitive-behavioral therapy of grief shows that the outcome studies of grief cognitive-behavioral interventions are limited, but those carried out are cited as effective ones (Mawson et al., 1981; Ramsey, 1979; Schut, de Keijser, van den Bout, & Stroebe, 1996; Sireling et al., 1988), especially if the grief reactions are prolonged and distorted. Ramsey (1979) was one of the first who developed a behavioral treatment for CG. The central focus of the intervention was the use of flooding techniques to enable painful feelings. Gradually planned in vivo-session exposure helped the patient to confront avoided bereavement cues. The grief work itself took place after the extinction, which leaded to reintegration and resolution. Mawson et al. (1981) provided behavior therapy ('guided mourning') for six bereaved adults, which also involved exposure to painful memories and feelings related to the deceased person. The results show improvement on grief related symptomatology, which could be maintained after 28 weeks compared to the control group (n = 6). Sireling and colleagues (1988) replicated the study of Mawson et al. (1981) with a controlled study of 26 adults. The control group (n = 12) was asked to avoid painful memories related to the deceased. The treatment group (n = 14) who received guided mourning treatment showed a significant reduction in grief related avoidance symptoms by comparison with the anti-exposure group, even though both groups improved on the Texas Inventory of Grief, anxiety and depressive symptoms and maladaptive behavior.

Kleber and Brom (1987) conducted a comparative outcome study of 83 patients suffering from 'pathologic grief' from losses in the previous 5 years. Most of the losses were traumatic and sudden. The bereaved participants were randomized into hypnotherapy (behavioral), trauma desensitization (behavioral therapy including exposure and relaxation techniques), and a brief psychodynamic therapy. In the analyses trauma desensitization had the biggest effect followed by lesser but still significant effects for psychodynamic and hypnotherapy. Overall all three therapies were successful in improving patients' bereavement response

symptoms, but in terms of effectiveness there were no great differences between the three therapies.

Although CBT has, so far, seldom been implemented in its pure form in interventions of CG, it has been shown that it is beneficial in its modified forms.

3.3. Writing Therapies

A number of studies which evaluated the written disclosure paradigm developed by Pennebaker and colleagues (Berry & Pennebaker, 1993; Harber & Pennebaker, 1992; Murray, Lamnin, & Carver, 1989; Pennebaker, 1993; Pennebaker, Kiecolt-Glaser, & Glaser, 1988; Pennebaker & Klihr-Beall, 1986) previously suggested that this paradigm was thought to be useful for adjustment after traumatic events (Pennebaker & Klihr-Beall, 1986; Pennebaker, Colder & Sharp, 1990; Pennebaker et al., 1988). Participants of these studies were asked, in specific writing assignments, to write for 15 to 30 minutes in consecutive days about their 'deepest thoughts and feelings' of the traumatic event. This intervention usually does not involve any personal therapeutic contact and is more comparable with self-guided treatments. In these studies induced disclosure seemed effective in a range of settings. Writing about feelings and issues related to negative experiences showed positive physical and psychological effects and enhanced immune functioning (Smyth, 1998; Smyth & Greenberg, 2000). The translation of experiences into language and constructing a coherent narrative of the event might have enabled the integration of feelings and thoughts into their lives. However, a recently published meta-analysis of 61 randomized, controlled studies (Meads & Nouwen, 2005) could not find any significant effects of emotional disclosure on either psychological or physical health for individuals who have experienced a traumatic event. These findings are surprising since induced disclosure has so far been assumed to be a beneficial intervention for individuals having experienced a trauma.

Only a few studies have looked at the efficacy of the disclosure paradigm with bereaved individuals only. Similar to the results of meta-analyses of bereavement interventions, the studies generally failed to replicate the healing effect (Stroebe, et al., 2005). Kovac and Range (2000) found that writing about bereavement cues resulted in a reduction of grief symptoms for individuals bereaved

through suicide. This effect could not be found for those bereaved from sudden and homicidal deaths (Range, Kovac, & Marion, 2000). In a study undergraduates (N = 64) who had experienced accidental or homicidal death of a loved one were asked to participate in a writing project. They were either randomly assigned to write either about the bereavement experience or about innocuous topics. They were asked to write 15 minutes a day for four days. After six weeks no beneficial treatment effects of condition or interaction could be found. A study conducted by Stroebe, Stroebe, Schut, Zech, & van den Bout (2002) also could not find any positive effects of disclosure on bereaved adults. In this study writing tasks also could not confirm previous findings of Pennebaker, Zech and Rimé (2001), which claimed that bereaved individuals would benefit more from disclosure following unexpected and sudden loss. These results may raise the question of why some individuals show positive effects after written disclosure, while others do not. Pennebaker et al. (2001) explained why this kind of intervention might have a low or no impact: disclosure seems to be particularly effective when people need to come to terms with particularly chaotic and unsolved events. Then the disclosure manipulation may help to reorganize and rebuild the self-system (Pennebaker & Keough, 1999). Another reason might be that disclosure has a greater impact on individuals who experienced events which are difficult to talk about naturally with other people (Stroebe et al., 2005). Those who express their feelings and emotions naturally in their daily lives might experience less impact through disclosure. Conclusively, bereaved individuals who are having difficulties to cope with bereavement might benefit more from the 'Pennebaker paradigm' than those who share naturally.

3.4. Interventions for Complicated Grief

Despite the wide variety of existing bereavement interventions, based on different techniques, the regrettable absence of a diagnostic entity for CG has also hindered clinical research on treatments tailored specifically for this group. Many interventions offered to individuals suffering of CG are based on untested theories and often show only little effectiveness (Shear & Shair, 2005). Additionally often standard treatment for depressions are used. To our knowledge there is only one study which aimed specifically at patients suffering of CG (Shear et al., 2005). Shear and colleagues (2005) developed a targeted complicated grief treatment

(CGT), which included the following three elements: 1) interpersonal psychotherapy (IPT) for grief-related depressive symptoms; 2) cognitive-behavioral techniques for addressing trauma-related symptoms such as avoidance behaviors and intrusive images, and 3) cognitive elements to focus on with loss-related distress. In a randomized controlled trial participants suffering of CG were assigned either to the CGT (n = 49) or to standard IPT (n = 46). The CGT was provided in 16 sessions and the average time period was 19 weeks per patient. The treatment manual included three phases. The treatment started with an introductory phase, which included psycho-education about the dual process model (DPM) of adaptive coping (Stroebe & Schut, 1999) and a discussion about personal life goals. The middle phase included elements of exposure techniques addressing trauma-like symptoms. The patients were asked to retell their story of the death and to focus and bereavement cues. Distress related to the loss was targeted using imaginal conversation techniques to strengthen the connection with the deceased. Here the treatment concentrated on positive memories of the deceased, but also negative memories could be addressed during session. The final phase concluded with a special focus on restoration. The patients were asked again to define and reflect their personal life goals, and the therapist encouraged the patient to put these into action and to discuss concrete plans.

The results of this study showed that both treatments showed improvement in CG symptoms, even though the CGT showed better response than to IPT. However, still only 51% responded to CGT and 28% for IPT. An important limitation of the study was that 45% of the patients were taking psychotropic medications. In this study medication use showed a significant effect on outcome and response rate. Nevertheless, the results show that CGT is an encouraging new treatment for patients suffering of CG, but further research and systematic studies of which elements of treatment are effective are needed.

4. Therapeutic Treatment on the Internet

In the past years a large number of Internet-based psychotherapeutic interventions have been developed. Computer technology has been used for a number of years mainly for assessment, psycho-education and diagnosis (Newman,

Consoli, & Taylor, 1997). Health information and support is considered to be one of the issues most often searched for on the Internet (Eysenbach, Sa, & Diepgen, 1999). However, the use of computers for psychological treatment was seen with some skepticism, and only recently has research and growing demand slowly diminished former hesitation. With the increasing use of the Internet in everyday life also the use of therapeutic interventions via Internet are more accepted. Growing costs of mental health problems for health services and health insurances ask for briefer, more cost-effective and more accessible therapies. Often therapeutic possibilities are not available due to waiting lists, too few therapists, expense, and patient's reluctance to start therapy (Kaltenthaler, et al., 2002). Patients may choose to disclose more personal information or stigmatized feelings than they would in person (Joinson, 2001). There is some evidence that people are better able to disclose themselves to computers than in face-to-face contact (Emmelkamp, 2005). Further, it appears that computer-based assessments are better able to predict suicidal feelings than clinical interviews. Levine, Ancill, and Roberts (1989) showed this their prospective study of 102 patients, who were admitted to a hospital after a suicide attempt. The patients were first interviewed by computer and later by a psychiatrist who was unaware of the results of the computer assessment. The results of the computer assessment were a better predictor for suicidality than the interview with the psychiatrist. Patients seemed not only to accept the computer as medium to communicate, but patients might also be prepared to confide information which they are unwilling to tell a clinician.

Computerized therapy is thus one possibility to offer patients potential benefits with a higher accessibility and less therapist involvement, than traditional face-to-face therapies. Three different types of Internet-based psychological interventions can be identified (Knaevelsrud, 2005): computer-guided therapy (self-help computer programs); computer-augmented interventions (e.g. virtual reality exposure therapy) and Internet-based psychotherapeutic interventions (such as 'Interapy'). This chapter will provide an overview on the current use of Internet-based therapeutic programs, and the application of Internet-based cognitive-behavioral interventions.

4.1. Computerized Therapeutic Self-help Programs

Computerized interventions, which usually do not require any therapist contact, are developed as self-help and self-management tools. These programs are typically based on cognitive behavior therapy (CBT). The self-help program offers often an interactive interface, which integrates videos, graphics and animations, as well as multiple-choice questionnaires, diary completions and mood ratings (Cavanagh & Sapiro, 2004). Available programs which have been proven to be effective, have been developed for depression (Christensen, Griffiths, & Jorm, 2004; Marks et al., 2003; Proudfoot, Ryden, & Everitt, 2004; Wright et al., 2005), panic disorders (Carr, Ghosh, & Marks, 1988; Chandler, Burck, Sampson, & Wray, 1988), and obesity (Burnett, Magel, Harrington, & Taylor, 1989). The advantage of these treatments embraces many of the benefits of self-help books compared to traditional therapies such as highly reduced costs and accessibility of the program at almost any place, but can be better tailored to the needs of the user than self-help books (Ström, 2003). One disadvantage with Internet-based self-help programs with very limited or no therapist contact is that they show a comparably greater drop–out (Ström, 2003).

4.2. Computer-augmented Psychotherapeutic Interventions

Another approach involves computer technology being used to augment therapy by monitoring the patient's progress, enhancing therapy sessions or transmitting part of the treatment via e-mail. Therapists can employ e-mail contact as an adjunct to psychotherapy. Another recent development of computer-augmented interventions is the use of virtual reality techniques. Virtual reality (VR) integrates real-time graphics, visual displays and other sensory inputs to enlarge the computer-based virtual environment. Krijn, Emmelkamp, Olafsson, & Biemond (2004) show in their review that virtual reality has been successfully employed with phobias such as fear of flying (Mühlberger, Herrmann, Wiedemann, Ellring, & Pauli, 2001; Rothbaum, Hodges, Anderson, Price, & Smith, 2002), and fear of heights (Emmelkamp et al., 2002). Also studies carried out on fear of public speaking (Harris, Kemmerling, & North, 2002), and arachnophobia (Garcia-Palacios, Hoffman, Carlin, Furness, & Botella, 2002) showed positive treatment effects. An especially interesting innovation in practice with severe burn patients is

the use of a virtual snow world ('SnowWorld'). *SnowWorld* is the first virtual world designed for burn patients. To maximize the potential for distraction to reduce pain of burn patients, the mental escape into an immersive virtual world helped to reduce the pain experience (Hoffman, Doctor, Patterson, Carrougher, & Furness, 2000; Hoffman, Patterson, & Carrougher, 2000). Patients wear a VR helmet, which blocks their view of the burn wound, and they float through a snowy three-dimensional canyon and landscape during severe burn wound care or physical therapy sessions. Preliminary clinical studies showed that immersive VR distraction reduces patient's pain ratings during severe burn wound care by 30%–50% (Hoffman, Patterson, et al., 2004; Hoffman, Doctor, et al., 2000). VR allows exposure to stimuli which are difficult or costly to arrange and can be repeated as often necessary. Disadvantages might involve cybersickness, a variation of motion sickness (Anderson, Jacobs, & Rothbaum, 2004) or symptoms of perceptual-motor disturbances and drowsiness (DiZio & Lackner, 1992).

4.3. Internet-based Psychotherapeutic Interventions

Finally, a more recent approach is the Internet-based therapeutic approach. Here the patient and therapist communicate mostly via e-mail, a chat-room or video-conference. E-mail is the most common form of this approach. The exchange is text-based and asynchronous, i.e. the communication takes place in a delayed time form.

Lange and colleagues (2000b) at the University of Amsterdam were one of the first who developed an Internet-based intervention ('Interapy') using protocol-driven cognitive-behavioral therapy. Lange and colleagues first developed an Internet-based treatment for PTSD (Lange, van de Ven, Schrieken, & Emmelkamp, 2001; Lange et al., 2003), later treatments for burn-out (Lange, Ven, van de, Schrieken, & Smit, 2004), depression (Lange et al., 2006) and panic disorder (Yager, Emmelkamp, Lange, 2004) followed. The *Interapy* treatment consists of structured writing assignments based on the theoretical background of cognitive-behavioral therapy and written disclosure procedure developed by Pennebaker and his colleagues (Berry & Pennebaker, 1993; Harber & Pennebaker, 1992).

4.4. Internet-based Intervention for PTSD 'Interapy'

In the last years have been one controlled (Lange et al., 2000b) and three randomized studies conducted to evaluate the treatment effects of this intervention for PTSD (Knaevelsrud & Maercker, 2005a; Lange et al., 2001; Lange et al., 2003). The elements of structured writing disclosure and cognitive-behavioral therapy were used as a base for a three-phase writing manual (exposure, cognitive restructuring and social sharing) for Internet-based treatment of PTSD. The entire treatment takes place through a database implemented on the Internet. All four studies showed significant improvement on posttraumatic stress symptoms and psychological functioning. The first randomized controlled study (Lange et al., 2001) was conducted with undergraduate students (N = 30), who suffered of symptoms of posttraumatic stress. The participants in the experimental condition (n = 13) improved significantly compared to the participants in the waiting list control condition (n = 12) on trauma-related symptoms and general psychopathology. The effect sizes were large (d = 1.50 on avoidance and d = 1.99 on intrusions). About eighty percent of the participants in the treatment condition showed clinically significant improvement after the treatment. The second randomized controlled study (Lange et al., 2003) included a clinical sample which manifested mild to relatively severe trauma symptoms. Participants in the treatment condition (n = 69) improved significantly more than in the control waiting condition (n = 32). Also this trial showed that symptoms of general psychopathology and trauma-related symptoms such as avoidance and intrusions improved significantly. On most subscales about 50% of the participants showed reliable change and clinical significance. The evaluation of the German-language study showed similar beneficial effects. A controlled trial has been conducted to evaluate the Internet-based intervention for posttraumatic stress disorder (Knaevelsrud & Maercker, 2005a). The study included N = 96 patients with PTSD who were either allocated to the 10 sessions Internet-based CBT (n = 49) or a waiting-list control group (n = 47). At posttreatment the treatment group revealed significantly greater improvements of PTSD severity and other psychopathological measurements. 74% of those with initial PTSD achieved clinically significant change at posttreatment, compared to 21% of those on the waiting list. These findings could be sustained at the three months follow-up.

Taking these randomized controlled studies into account the robustness of the results show that treatment through the Internet is an effective treatment alternative for a wide range of disorders. The randomized controlled studies showed that Internet-based interventions can be as effective as traditional face-to-face treatment. However, none of these studies regarded individuals suffering from CG and PTSD as separate diagnostic groups. Focusing on complicated grief, so far no Internet-based intervention has been developed for treating CG.

4.5. The Therapeutic Relationship in Online Relationships

One core issue of the use of technology in psychotherapy is the therapeutic relationship, which is traditionally still seen as a matter of human encounter (Caspar, 2004). The importance of the human factor of the therapeutic relationship in psychotherapy has been widely assumed. But beside the benefits a face-to-face therapeutic relationship shows, the human encounter also demonstrates its limitation for some people. There are individuals who miss out working on their problems because they are too embarrassed to reveal them to a therapist. Here the lack of direct contact may be of therapeutic use in online relationships. The anonymity of online relationships has a disinhibiting effect, which can encourage therapeutic expression and self-reflection (Suler, 2001). In online relationships only a few social masks have to be removed and the near complete absence of sensory contact, such as physical presence, the lack of social and nonverbal signs (Knaevelsrud, Jager, Maercker, 2004), adds to a faster confrontation, from the first exchange of e-mails on, with core issues that might have not been addressed in a traditional setting (Rochlen, Zack, & Speyer, 2004).

Knaevelsrud and Maercker (2005a, 2005b) evaluated patients ($N = 96$) with PTSD who participated a 10-session *Interapy* treatment. The Working Alliance Inventory (WAI) was administered at the fourth and the last session. High alliance ratings were found already after the fourth session and even higher than in comparable face-to-face studies (e.g. Hersoug, Hoglend, Monsen, & Havik, 2001). Particularly the bond-dimension of the working alliance, which comprised statements such as: ‘Me and my therapist trust each other’ was rated highly, even at the beginning of the treatment. High ratings of the WAI were also found at the end of the treatment. Additionally, a significant improvement of the therapeutic

relationship rated by the patients could be observed during the course of the treatment.

Further, Knaevelsrud and Maercker (2005a, 2005b) found a substantial association between late therapeutic alliance and treatment outcome. This finding is in line with face-to-face therapy studies of CBT (Gaston, Marmar, Gallagher, & Thompson, 1991). Contrarily, analysis of the working alliance at an early point of treatment revealed no substantial association with treatment outcome (Knaevelsrud & Maercker, 2005b). There is so far little research on the impact of the therapeutic relationship on outcome measures of Internet-based therapies, and the question remains if an online therapy also shows impact on salutary aspects, such as perceived personal growth or optimism.

5. Grief and the Internet

In the recent past, close family members and the community provided support for the bereaved individual. In modern urban societies, families and friends are often separated by significant distances and cannot actively support the grieving process or participate in memorializing their deceased. This explains the rise of Internet-based support groups and memorial websites in which bereaved people find a form to express their sometime disenfranchised grief. These sites are public places and offer support in a community of similarly bereaved persons. The content of these online support groups and memorial sites reflects the many processes of coping with bereavement, from expressing the loss but also the reconstruction of meaning of the life after the death.

Specific support groups present themselves through websites, e.g. for the bereaved through suicide, homicide, sudden child death, for widows and widowers. Services are offered such as interactive guest books (members and visitors of the website write comments and give advice), mailing-lists (information about activities and news of the groups are forwarded in the form of letters to registered members), chat-rooms (text-based, synchronous real-time communication), psycho-education (information about the stages and forms of bereavement) and practical tips (e.g. addresses of lawyers who are specialized in crime victims), book lists and literature

recommendations, local group meetings, what to do in cases of sudden and unexpected death, etc.

Memorial pages and picture boards for the deceased play a central role in these websites, which also offer information and support. These memorials are independent websites, which provide an opportunity to honor and to pay tribute to a person. Despite the growing communities which exist online, there is no scientific research on how beneficial this kind of support might actually be.

6. Internet-based treatment for Complicated Grief (INTERAPY): Concepts and Case study

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6.1. Abstract

We review current concepts of complicated grief and propose a new Internet-based cognitive-behavioral treatment program (INTERAPY) for complicated grief. We show how complicated grief is distinguished from disorders such as PTSD, depression, and anxiety in the literature, and explore the effectiveness of existing bereavement interventions. According to meta-analyses, conventional bereavement interventions show no overall benefit, and may even have harmful effects if initiated too soon. For people with complicated grief symptoms or those affected by a death in traumatic circumstances, however, interventions have proved to reduce symptoms. Against this background, we introduce an Internet-based cognitive-behavioral treatment program for complicated grief that integrates established methods of psychotherapy with new technology. The intervention was conducted via e-mail and aimed exclusively at clients with complicated grief. The procedure and course of this new approach are illustrated in a case study. The treatment successfully reduced symptoms. Results and further implications of an Internet-based writing protocol are discussed.

6.2. Introduction

Grief is a natural, non-pathological phenomenon. It involves a continuing and changing process of adjustment to life without the deceased. Most bereaved people do not show pathological symptoms; only a minority suffers from complicated grief (also called 'pathological' or 'traumatic' grief). As such, grief usually does not require counseling or specific bereavement treatment (Stroebe, Hansson, Stroebe, & Schut, 2001). In fact, results show that interventions initiated too soon after the loss can be harmful (Brom, Kleber, & Defares, 1989; Mawson, Marks, Ramm, & Stern, 1981; Murphy et al., 1998; Sireling, Cohen, & Marks, 1988). Therefore, several authors (Murphy et al, 1998; Neimeyer, 2000; Sireling et al., 1988) have concluded that interventions should only be provided for specific subgroups of bereaved individuals: 1) preventively for bereaved people lacking social support, 2) if the death occurred in traumatic circumstances, and 3) for those already showing a high level of symptoms, that is, persons suffering from complicated grief. Nevertheless, there are still many interventions aimed at people who are experiencing a normal grieving process rather than suffering from complicated grief. This is partly due to a lack of information about the effects of bereavement interventions, but also because there is no clear concept of complicated grief, or a clear distinction from the normal grief process. The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994) and the International Classification of Diseases-10 (ICD-10; World Health Organization, 1992) still do not recognize complicated forms of prolonged and distorted mourning as a distinct diagnostic category.

Complicated grief can be defined as a deviation from the (cultural) norm in the duration or intensity of the symptoms of grief (Stroebe et al., 2001). Several reactions of complicated grief are described in the literature, including feelings of guilt, self-blame, anxiety and depression-related symptoms, post-traumatic stress disorders (Schut, de Keijser, van den Bout, & Dijkhuis, 1991; Zisook, Schneider, & Shuchter, 1990; Znoj & Maercker, 2004), and physical health problems (Rogers & Reich, 1988; Zisook, Shuchter, Sledge, Paulus, & Judd, 1994). Bereaved individuals often suffer from biased thinking (Fleming & Robinson, 2001), especially when analyzing the circumstances of and reasons for the death (Sherman & McConnell 1995). In the wake of a traumatic death, many bereaved individuals experience

interpersonal and intrapersonal social difficulties (Dyregrov, 2004). Particularly if the loss is stigmatized (e.g., suicide, child loss, murder), many bereaved people develop strong feelings of guilt and shame. The effects on social interaction are particularly marked in this subgroup – not only do the bereaved individuals tend to retreat from social interaction (Lang, Gottlieb, & Amsel, 1996), contact with them is also often avoided, leading to further isolation and loneliness. Bereaved individuals often feel stigmatized or stigmatize themselves (Dunn & Morrish-Vidners, 1987; Jordan, 2001).

One approach to diagnosing complicated grief is based on Horowitz's stress response theory (Horowitz, 1993, 1997, 2001; Horowitz et al. 1997). Complicated grief is characterized by symptoms of intrusion and avoidance. Sufferers fail to adapt completely to their loss and to the new situation. The processes observed are similar to those occurring in posttraumatic stress disorder, acute stress disorder, and – as proposed by Maercker, Einsle, and Köllner (2004) – adjustment disorder. The Internet-based cognitive-behavioral treatment presented below is based on stress response theory.

6.3. Distinctiveness from other disorders

Complicated grief shows high comorbidity with major depression (Zisook et al. 1994) and PTSD (Melhem et al., 2001). In the past decade, however, consensus has emerged that although overlaps with these disorders do exist, complicated grief is a distinct complaint (Prigerson et al., 1995; Prigerson et al., 1996). Research has shown that major depressive disorder takes a different clinical course than complicated grief (Pasternak et al. 1991; Prigerson, et al., 1997). Compared to individuals suffering from complicated grief, depressive patients have different EEG sleep profiles (McDermott et al., 1997) and distinct neuroendocrine responses (Jacobs, 1987).

An event can be considered traumatic if it involves experiencing, witnessing, or confronting actual or threatened death, injury, or threat to the physical integrity of oneself or other people (DSM-IV-TR, APA, 2000). Consequently, the death of a close person falls into the category of potentially traumatic events. With reference to these diagnostic criteria, complicated grief often has been subsumed under PTSD. However, it has become increasingly clear that complicated grief has its own set of

symptoms that distinguish it from PTSD (Boelen, van den Bout, & de Keijser, 2003; Prigerson et al., 1995). Another major difference between PTSD and complicated grief is that the trauma in complicated grief normally seems to result from the pain of separation from the deceased, rather than from exposure to a horrific experience. Individuals suffering from complicated grief appear not to avoid reminders of threat, as individuals with PTSD are often observed to do. Instead, they tend to avoid reminders of the absence of the deceased through denial and dissociation (Prigerson & Jacobs, 2001). This distinct phenomenology of depression, PTSD, and complicated grief indicates that complicated grief can be seen as a clinical entity in its own right. Lichtenthal, Cruess and Prigerson's (2004) extensive review demonstrates that complicated grief constitutes a distinct psychopathological diagnostic entity, and corroborates these findings.

6.4. Two recent diagnostic approaches

In recent years, two notable research groups have proposed diagnostic criteria for distorted and prolonged grieving with the following terminology: traumatic grief disorder (Prigerson et al., 1999) and complicated grief disorder (Horowitz et al., 1997). Prigerson and Jacobs (2001) list ten symptoms of 'traumatic grief.' These symptoms reflect the bereaved person's feelings about the death of a significant other and can be classified into two categories: (a) symptoms of *separation distress* (e.g., preoccupation with thoughts of the deceased, longing and searching for the deceased, loneliness after the loss); and (b) symptoms of *traumatic distress* (e.g., disbelief about the death, anger, feelings of shock). The symptoms should at least last two months for a diagnosis of traumatic grief disorder.

Prigerson and Jacobs (2001) substituted the original term 'complicated grief' by 'traumatic grief,' considering the latter to be a more precise description of the two dimensions of the syndrome, i.e., trauma and separation stress. Moreover, the new term was assumed to sound less negative or stigmatizing than 'complicated grief' (Jacobs, Mazure, & Prigerson, 2000). However, the term 'traumatic grief' might give the misleading impression that the death occurred in traumatic circumstances. In fact, this is not necessarily the case – the authors' terminology describes the nature of the disorder itself rather than the objective circumstances of the bereavement (Jacobs et al., 2000).

Parallel to Prigerson and colleagues, Horowitz et al. (Horowitz, 1993, 2001; Horowitz et al., 1997) have also published diagnostic criteria for complicated grief disorder. As mentioned above, these criteria are based on stress response theory. According to Horowitz, complicated grief disorder has a generic relationship to PTSD, as both result from exposure to a stressful event. As such, Horowitz (1997) emphasizes the intrusive and avoidance symptoms as well as the maladaptive behavior occurring in complicated grief. Traumatized persons oscillate between intrusive memories of the traumatic event and avoidance. Avoidance may prevent habituation to painful memories (Foa & Kozak, 1986) and interfere with the development of new perspectives without the deceased (Boelen et al., 2003). These processes are thought to be similar for individuals suffering from complicated grief. In their study with bereaved participants, Langner and Maercker (2005) confirmed that the stress response model also applies to complicated grief.

Despite their different emphases on aspects such as avoidance, sleep disturbances, and duration (see Table 3), there is remarkable similarity in the symptoms proposed independently by the two research groups. Hopefully, agreement will soon be reached on the precise set of symptoms defining a grief disorder.

6.5. Treatment approaches to grief reactions or complicated grief disorder

Increasing numbers of grief treatments with various theoretical backgrounds have been developed over recent years. Most interventions tend to use a combination of social support, stress-reduction and psychodynamic approaches (Kato & Mann, 1999) combined with social activities and guided mourning. Moreover, several studies (Brom et al., 1989; Mawson et al., 1981; Murphy et al., 1998; Sireling et al., 1988) emphasize the importance of distinguishing between normal and complicated grief processes, given that inappropriate therapeutic interventions seem to disturb the natural emotional processing and social support systems of the bereaved.

Table 3. *Diagnostic Criteria of Traumatic Grief (Prigerson et al., 2001) and Complicated Grief (Horowitz et al., 1997)*

Traumatic Grief (Prigerson et al., 2001)	*Complicated Grief (Horowitz et al., 1997)*
Criterion A (3 of the 4 symptoms of separation distress below): 1. Intrusive thoughts about the deceased 2. Yearning for the deceased 3. Searching for the deceased 4. Loneliness as result of death **Criterion B (4 of the 8 symptoms of traumatic distress below):** 5. Purposeless or feelings of futility about the future 6. Subjective sense of numbness, detachment, or absence of emotional responsiveness 7. Difficulty acknowledging the death (e.g., disbelief) 8. Feeling that life is empty and meaningless 9. Feeling that part of oneself has died 10. Shattered worldview (e.g., lost sense of security, trust, and control) 11. Assumes symptoms or harmful behaviors of, or related to the deceased person 12. Excessive irritability, bitterness, or anger related to the death **Criterion C** Duration of the disturbance (symptoms listed) is at least two months **Criterion D** The disturbance causes clinically significant impairment in social, occupational, or other important areas of functioning	3 of the 7 symptoms below: **A. Intrusive symptoms:** 1. Unbidden memories or intrusive fantasies related to the lost relationship 2. Strong spells or pangs of severe emotion related to the lost relationship 3. Distressingly strong yearnings that the deceased were there **B. Avoidance symptoms** 4. Excessive avoidance of people, places, or activities that remind the subject of the deceased 5. Lost interest in work, social, caretaking, or recreational activities to a maladaptive degree **C. Failure to adopt** . Feelings of being far too much alone or personally empty . Unusual levels of sleep disturbances **D. Diagnosis at least 14 months post-loss**

6.6. Empirical evaluations

A number of meta-analyses and review studies (Forte, Hill, Pazder, & Feudtner, 2004; Kato & Mann, 1999; Litterer Allumbaugh & Hoyt, 1999; Neimeyer, 2000) describe the results of interventions aimed at patients with grief, including guided mourning, interventions for bereaved parents, and cognitive-behavioral treatments (see Table 4) in the form of both individual and group therapy. Most of these studies show overall weighted mean effect sizes between .11 and .43. By Cohen's (1988) standards for research in the behavioral sciences, these effects are moderate. Relative to the .80 effect size found for other forms of psychotherapy (Lambert & Bergin, 1994), effects of this magnitude can even be considered 'small.' The findings for certain subgroups have been better. Surprisingly, controlled outcome trials showed that the longer the complicated grief process had been continuing, the better the chances of positive results (Schut, Stroebe, van den Bout, & Terheggen, 2001). Highly distressed bereaved mothers seem to benefit most from psychological bereavement interventions (Murphy et al., 1998; Murray, Terry, Vance, Battistutta, & Connolly, 2000). It is also worth noting that interventions occurring soon after the loss may in fact be harmful and produce negative results (Polak, Egan, Vandenbergh, & Williams 1973, 1975). Most of the existing studies and meta-analyses deal with grief treatments in general, rather than complicated grief in particular. To date, the number of outcome studies evaluating cognitive-behavioral bereavement interventions is limited. Nevertheless, they are considered to be effective (Mawson et al., 1981; Schut, de Keijser, van den Bout, & Stroebe, 1996; Sireling et al. 1988), especially when grief reactions are prolonged and distorted.

Up to now, only one pilot study (Shear et al., 2001) taking a cognitive-behavioral approach has specifically dealt with the treatment of complicated grief. The treatment targets distress and behavioral avoidance, and includes behavioral exposure procedures that have proved successful in the treatment of PTSD (Foa & Jaycox, 1999). Results of this study (N = 21) showed a large effect size of 1.82 for symptom changes. Harkness, Shear, Frank, and Silberman (2002) describe the case histories of four patients who participated in this pilot study.

Table 4. *Meta-analysis of bereavement interventions*

Author	Number of studies	Effect Size Symptoms	Effect Size Group	Effect Size Treatment	Effect Size Practitioner Training	Overall effect size
Kato & Mann (1999)	*n* =11	Depression and grief: *d* = .052 Physical symptoms: *d* = .272 Other psychological symptoms: *d* = .095 All 37 effect measures: *d* = .114	Not reported	Social support intervention (*n* = 16): *d* = 0.29 Social activities intervention (*n* = 2): *d* = -.348 Stress intervention (cognitive restructuring, trauma desensitization, behavioral skills) (*n* = 4): *d* = -.006	Not reported	*d* = .114
Litterer Allumbaugh, & Hoyt (1999)	*n* = 35	Not reported	Group treatment: *d* = .40 Individual treatment: *d* = .65 High risk group: d = .38 Normal risk group: *d* = .43	Not reported	Licensed professional: *d* = .66 Non-professional therapists: *d* = .11	*d* = .43
Neimeyer (2000)	*n* = 23	Not reported	Patients with traumatic grief: *d* = .38 Normal grievers: *d* = .06	Not reported	Not reported	*d* = .13

6.7. Internet-based grief therapy

6.7.1. Previous approaches

Given the similarity of some symptoms of complicated grief disorder to those of PTSD, it is conceivable that cognitive-behavioral treatments designed for PTSD (Foa & Jaycox, 1999) might trigger similar healing mechanisms among individuals suffering from complicated grief. Structured writing assignments (e.g., testimony, narrative exposure therapy) represent alternative approaches to traditional face-to-face therapies. Clinical case studies of such assignments have demonstrated their effectiveness in the treatment of pathological grief and posttraumatic stress (Lange, 1996; Lepore, Greenberg, Bruno, & Smyth, 2002). Based on these studies, Lange et al. (2000) have developed an Internet-based protocol called 'Interapy' to treat posttraumatic stress disorder and pathological grief. The 'Interapy' protocol includes elements of cognitive-behavioral therapy: (a) imaginary exposure in the form of self-confrontation with the traumatic event (Foa & Jaycox, 1999), (b) cognitive reappraisal (e.g., Ehlers & Clark, 2000) to heighten awareness of dysfunctional thoughts, (c) reinterpretation of maladaptive behavior, and (d) elements supporting social sharing.

In a controlled trial of a large Dutch sample (n = 101) of patients suffering from PTSD and complicated grief, Lange et al. (2003) observed highly significant improvements in the treatment condition, with effect sizes of 1.3 for intrusions, and 1.4 for avoidance, and 1.0 for depression.

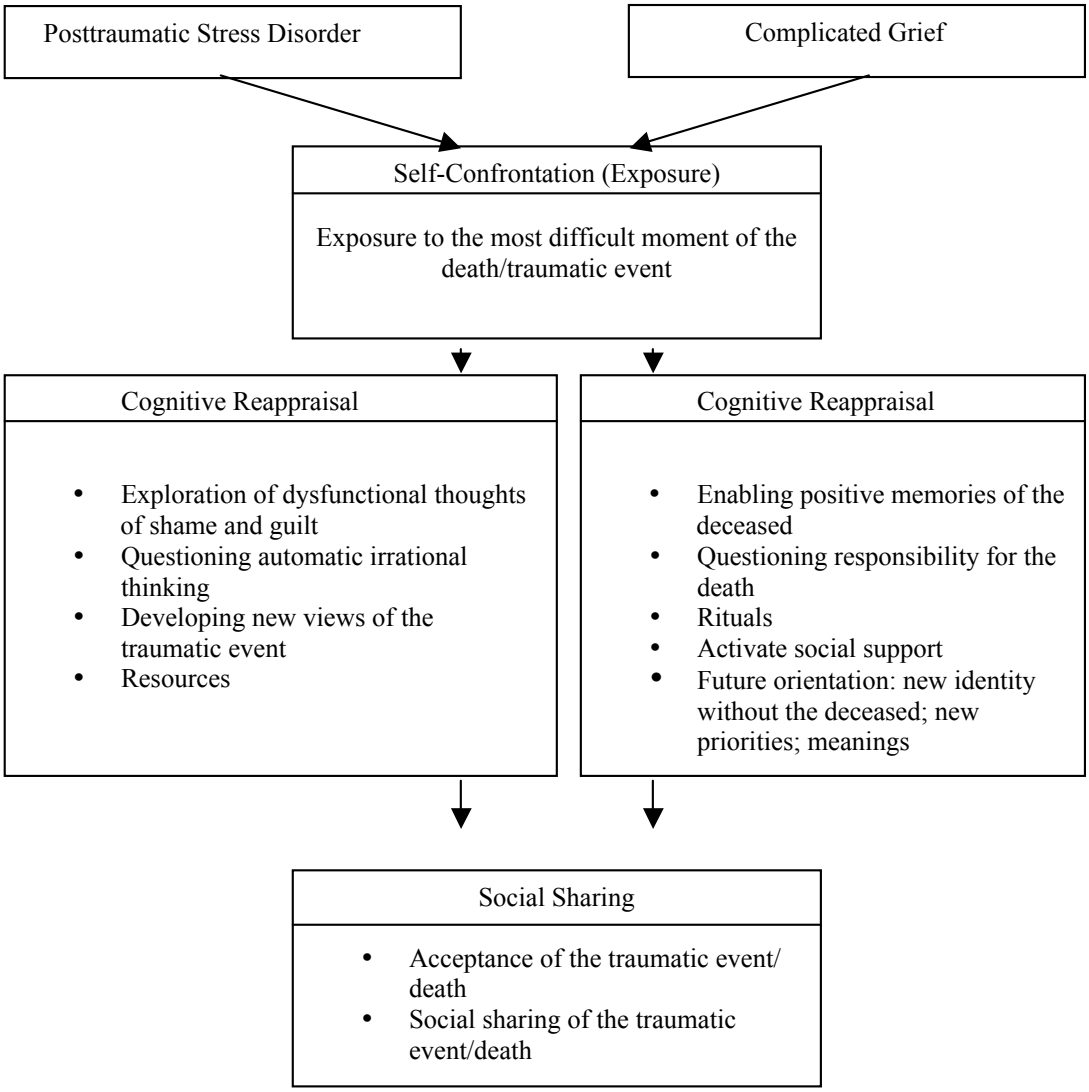
None of these studies regarded individuals suffering from complicated grief and PTSD as separate diagnostic groups. In an ongoing research project (Knaevelsrud, Jager, & Maercker, 2004; Maercker & Knaevelsrud, 2005), we decided to separate bereaved and traumatized participants into two distinct groups. The present article reports on the first study to emerge from this project, which evaluates the Internet-mediated treatment of participants suffering from complicated grief.

6.7.2. Course of treatment

The writing protocol administered in our study (Lange et al., 2000; Lange, van de Ven, Schrieken, & Emmelkamp, 2001) consists of three modules that mirror the face-to-face treatment protocol by Foa and Rothbaum (1997): 1) self-confrontation, 2) cognitive reappraisal, and 3) social sharing. Although related, complicated grief disorder and PTSD do differ to some extent in their clinical symptomatology. As

such, the protocol for complicated grief disorder focuses on different elements of treatment, particularly in the phase of cognitive reappraisal. Figure 2 documents these differences over the course of the treatment.

Figure 2. *Different treatment approaches for complicated grief and PTSD*



One main difference between the PTSD and the complicated grief writing protocols is that the PTSD treatment aims to help patients forget the trauma more or less, whereas the main goal of the complicated grief treatment is to help the patient to remember the deceased in a positive, more comforting way. The focus on positive memories, rather than on disturbing aspects of the death, is therefore of central importance. Another difference is that the complicated grief treatment challenges biased automatic thinking such as feelings of guilt and self-blame regarding the death

and the influence that these feelings have on recovery from bereavement. Patients are asked to analyze their dysfunctional thoughts and to question counterfactual fallacies (i.e., 'if only… then…'). They are also instructed to develop rituals or activities to remember the deceased by, and to give the deceased person a place in their life. Since bereaved individuals often suffer from interpersonal and intrapersonal social difficulties, a main goal is to reactivate social networks, increase social support, and facilitate the positive effects of social sharing. Finally, participants are instructed to form new perspectives for their future. For example, they are encouraged to reorder their priorities, define a new identity without the deceased, find new meanings in life without the deceased, and re-activate the ability to experience pleasure.

6.7.3. Elements of treatment

Potential clients were recruited through notices on the websites of organizations that support bereaved parents, widowed partners, crime victims, etc., as well as through general psychology websites. Applicants first entered a screening procedure during which they completed various questionnaires (Knaevelsrud & Maercker, 2005), and were excluded from the treatment if they met one of the following criteria: severely depressed mood and suicidal tendencies, risk of psychosis, substance abuse, tendency to psychological dissociation, or being in treatment elsewhere. The treatment consists of 10 writing sessions extending over a period of approximately five weeks. The therapist and the patients communicated exclusively by e-mail. After every second essay, the patients received feedback and further instructions from the therapist. These instructions were based on the treatment protocol, but individually tailored to the patients' needs. At the beginning of each phase, patients were educated in the principles of the treatment module. The treatment was conducted by psychologists trained in cognitive-behavioral psychotherapy and with special training in the use of writing assignments to treat PTSD and complicated grief. The therapists participated in weekly supervision sessions.

First phase: Self-confrontation

First, patients were instructed to write four essays addressing the circumstances of the death. They were asked to express all of their fears and thoughts about the event and to focus on their sensory perceptions of the traumatic event in as

much detail as possible. Participants were instructed to write their essays in the present tense, in the first person, and without worrying about grammar, style, or the logical chronology of events.

Second phase: Cognitive reappraisal

Next, patients were instructed to write a supportive and encouraging letter to a hypothetical friend. They were asked to imagine that this friend had also experienced the loss of a significant other and was now facing the same difficulties. The letter should reflect on guilt feelings, challenge dysfunctional automatic thinking and behavior patterns, and correct unrealistic assumptions. The aim was to foster the development of new perspectives on the death and its circumstances, as well as to help the bereaved to define a new role and identity for themselves after the loss, to identify the lessons learnt from the death, and to regain a sense of control of their lives. The patients were encouraged to think about rituals to remember the deceased by, and to re-access positive memories of the deceased. Activating resources such as social contacts, positive competences and experiences are further important issues addressed with the help of these letters.

Third phase: Sharing and farewell ritual

In this final phase, patients take symbolic leave of the traumatic event by writing a letter to a significant person, to someone who witnessed the traumatic event, or to themselves. The letter could be sent after finishing the therapy, but this was not obligatory.

The following case description illustrates the course and outcomes of this Internet-based writing therapy for the bereaved. We cite those excerpts of the patient's essays that seem to emphasize the form and procedure of the treatment. In this particular case, no obvious obstacles to the treatment were identified.

6.7.4. Case Illustration

6.7.4.1. Client Description

Ms. A. is a 36-year-old married woman who works full-time in the media. She contacted 'Interapy' through a link on the homepage of an association for bereaved

parents. Two years ago, she lost her 15-year-old only son R., who committed suicide by lying in front of a train. There had been some difficult times in the relationship between the son and his parents, but at the time of the suicide, the relationship seemed to have had improved. As a result, the son's death was completely unexpected and came as a great shock to Ms. A. and her husband. Ms. A. had high scores on the Impact of Event Scale (IES-R; German version: Maercker & Schützwohl, 1998), which is used to measure the symptom groups of stress response syndromes: intrusions, avoidance, and hyperarousal.

Table 5. Ms A.'s pre- and posttreatment measures

	Pretreatment	Posttreatment	3-month follow-up
IES-Intrusion	33	6	14
IES-Avoidance	16	5	9
BSI-Anxiety	3	1	2
BSI-Depression	10	1	1

Additionally the Brief Symptom Inventory (BSI; Derogatis, 1992), a short form of the SCL-90-R measuring general psychopathology, was administered. Only the scores on the BSI depression and anxiety subscales are reported here (see Table 5). Ms. A.'s thoughts revolved around her son's decision to commit suicide, especially at night. They included visual images of her son lying down in front of the train. Additionally, she imagined the pain her son must have gone through. Ms. A. suffered from insomnia and experienced strong feelings of guilt. She had not received any professional psychological help before starting the Interapy treatment.

6.7.4.2. Course of treatment

In the first two essays, Ms. A. was asked to describe what had happened in as much detail as possible. She was instructed to concentrate on the moments and situations that she still experienced as particularly difficult. In the first essay, Ms. A. described how two police officers came to her house and informed her and her husband that their son had committed suicide. Ms. A. reacted with disbelief and felt that everything happening around her was unreal. She read the police report saying

that her son's body had been dragged some 400 meters before the train finally came to a stop.

'I feel cold, I don't cry, and I am not hysterical. I am frozen. I kneel down in front of R.'s rucksack and slowly go through his things. I look for proof that the dead child on the tracks is not mine.'

The second essay dealt with Ms. A.'s relationship to her son. She described how distressing the last years had been, how worried and helpless she had felt. She wrote about her guilt feelings:

'While my son was feeling so wretched that he saw no other way out than to lie down on the tracks in front of a train, I was lying in my bed, sleeping. I don't know if I can forgive myself. But, then again, I don't know if I can forgive him for what he has done to me.'

In the next two essays, constituting the self-confrontation phase, Ms. A. was asked to concentrate on one moment that kept coming to mind intrusively, but that was so distressing that she could hardly bear to think about it. Ms. A. chose the last minutes of her son's life, which were constantly on her mind:

'I think about what he must have felt when he sensed the train coming closer and the tracks vibrating. Does he see the lights of the train? What was he thinking? Did he have second thoughts, but not manage to get up in time? In some way, I am also proud of him, even though it might sound strange. To be able to go with through something like that calls for enormous courage. More courage than I ever would have had. Still, it's so painful when I imagine the pain he had to bear, how it feels for a train to tear you to pieces. Weeks after his death, someone brings us his shoe, which he found close to the train track.'

After finishing the last essay in the self-confrontation phase, Ms. A. expressed that she had found it very difficult to write these four essays. She reported feeling exhausted by the painful emotions emerging during the imaginary exposures and

having doubts about being able to continue the treatment. The therapist's feedback encouraged her, explaining that the exposure phase is indeed a very difficult period for many patients, and that her reactions are a normal part of the process of working through the distressing scenes of how her son died. Ms. A was then given instructions for the second treatment module, cognitive reappraisal. She was asked to imagine a friend who had experienced exactly the same kind of loss, and was suffering the same feelings. Ms. A. wrote letters to a fictional female friend, referring to the friend's feelings of guilt and expressing her respect for the son's decision:

"You couldn't foresee that he would take such drastic action! He never threatened to commit suicide. It was his own decision – even though he was still very young, he was old enough to make this decision. If you accept this, that your son was able to make such an uncompromising decision about his own life, you also will come to accept him as what he was, as someone with a personality of his own."

*S*he also reflected on her own life now and how she saw a possibility to continue:

"It doesn't mean that your life now only consists of pain and sorrow. You cannot live the rest of your life in the past. I can't imagine your son would have wanted that. You should give your life new meaning and purpose, and look for new perspectives and ideas which are fulfilling for you."

After writing this letter, Ms. A. reported that she felt better than in the previous weeks. The therapist answered with a feedback e-mail complimenting her on the warm and supportive letter she had written to her friend. The instructions for the next letters to her friend focused again on guilt feelings, the question of how she would feel if she stopped feeling guilty, how to find ways of giving her life new meaning, and which activities would be good for her. Additionally, she was asked to suggest rituals that her friend could integrate into her life in memory of her lost son. Ms. A. again reflected on her feelings of guilt and hypothesized that if she stopped feeling guilty, she would feel liberated and could start making plans for her future. She also began to remember the good times she had shared with her son. She advised

her friend to think about such moments when faced with distressing thoughts about the way he had died. She now was able to take some comfort in positive memories, knowing that she was able to connect with her son not only through distressing images. In the last letter to her friend, Ms. A. reflected on new rituals that could bring the friend closer to her son. For example, she suggested that her friend start playing the guitar or training to run in a marathon, both activities that her son used to enjoy. In the last letter in this phase she wrote:

"And you should never forget the principle R. gave his life: Have fun! That was his main aim in life, and he'd agree that you should start enjoying life again. He wouldn't understand why you feel guilty about enjoying being with your friends and laughing with them."

The third treatment module involved taking symbolic leave of the traumatic event by writing a farewell letter. Ms. A. chose to write to her son. She described how she had initially experienced his death, how she had tried to function despite her enormous pain, but was unable to live her life. She explained the incredible loss she felt and how difficult it was for her and her husband live without their child. She highlighted the profound consequences of his death for their life. At the same time, she underlined that she now respected the decision he had made. She wrote that she now needed to find a way to continue her life and find new meaning in it. She emphasized how important it was for her to find out which people and themes are of value to her in life. Ms. A. described a number of significant changes she planned to make in her life, like starting to write a film script and joining a community organization that helps young adults.

After completing the treatment, Ms. A. reported that it had helped her to feel more comfortable with the memories of her son. She reported that she was now able to put her preoccupation with his death beyond her. In fact, she felt that she could move on with her life and was actively planning her future. The negative, intrusive imagines of the way her son died had decreased, and Ms. A. now was able to remember the good times with her son and treasure these precious memories. As shown in Table 5, her IES and BSI scores declined markedly, and were still reduced at follow-up three months later.

6.7.4.3. Outcome and Prognosis

Posttraumatic stress symptoms were measured with the IES-R (Maercker & Schützwohl, 1998). Conventionally, the sum score of the intrusion and avoidance subscales is reported in literature. This score varies between 0 and 75. Higher scores indicate higher levels of subjective stress. In order to analyze symptom severity, a cut-off score of 35 has been suggested for non-clinical populations (Joseph, 2000). Ms. A.'s score was 49 before treatment, 11 immediately after treatment, and 23 at the three-month follow-up. The score on the depression subscale of the Brief Symptom Inventory (Derogatis, 1992) dropped from 10 pretreatment to 1 posttreatment, remaining at this level at follow-up. The corresponding scores on the BSI anxiety subscale were 3, 1, and 1, respectively.

6.8. Discussion

6.8.1. Discussion of the case study

The case study illustrates the course of an Internet-based treatment program for bereaved patients with complicated grief symptoms. The treatment resulted in reduced stress-response symptoms, reduced depression, and reduced emotional intensity associated with imaginary re-experiencing of the death. Imaginary exposure to the events surrounding the death permits habituation to the intense emotions they evoke. We hypothesize that exposure to the tragic and unexpected circumstances of the death opens up pathological emotional structures that might have been blocking the grief process, similarly to the conventional treatment of PTSD. Especially if the memories of and internal relationship with the deceased are at odds with prior images, it seems necessary to reconstruct the original view from its fragmented state (Malkinson, 2001). Only then is the patient able to access positive memories of the deceased and to develop new perspectives for future activities and daily life. Although the results of this treatment are positive, the follow-up scores after three months for intrusion and avoidance rose slightly. It is possible that the beneficial effects observed directly after the treatment may abate over time. For future research it is certainly useful to evaluate long-term effects.

6.8.2. General discussion

Our overview of the current state of bereavement research raises a number of important questions: How can diagnostic criteria for complicated grief best be defined? Is bereavement treatment effective? Which groups should it target? Finally, can new technologies, such as Internet-based bereavement treatment for complicated grief, open up new perspectives?

The necessity of defining diagnostic criteria for complicated grief seems obvious. We have demonstrated the difficulties in distinguishing between normal and complicated grief processes and the substantial symptom overlaps with disorders such as PTSD and depression. Given these difficulties, clearly defined and broadly accepted criteria are an essential prerequisite for further research as well as for the development of appropriate and effective treatments (Lichtenthal et al., 2004).

Unlike many other bereavement interventions, the present intervention did not target 'normal' uncomplicated bereavement reactions. The treatment was aimed specifically at people experiencing a traumatic or complicated bereavement. We hypothesize a number of reasons for its encouraging results. Beside the inclusion criteria, we assume that the rationale behind the 'Interapy' protocol is responsible for the treatment effects. The protocol is highly structured, with 10 writing sessions based on an established and effective cognitive-behavioral theoretical model. Participants were able to re-read and carry out the instructions given by e-mail at any time.

More generally, Internet-based bereavement therapy corresponds to the *zeitgeist* of therapeutic developments and seems to be congruent with bereaved individuals' needs following the loss of a significant person: privacy, reproducibility, a high degree of honesty and intimacy from the outset. Cognitive-behavioral bereavement interventions seem particularly well suited to the Internet because they are structured and focused on specific behaviors (Newman, Consoli, & Taylor, 1997). The Internet facilitates patient mastery and control and is particularly accessible and convenient.

The advantage of anonymity of the Internet helps patients to overcome their initial shame and encourages them to confront difficult themes such as guilt and social difficulties. The lack of gating features on the Internet (e.g., physical appearance and geographic location) facilitates intimacy and increased self-disclosure. This is because a lowered fear of rejection, and because any negative visual reactions of the therapist

to the traumatic experiences cannot be seen (Cook & Doyle 2002). Therefore, structured writing assignments provide a promising alternative to imaginary confrontations during face-to-face therapy.

6.8.3. Limitations

Possible limitations of the concept of complicated grief include the lack of broadly accepted criteria to distinguish it from other disorders, but also the difficulty in differentiating between 'normal' and 'complicated' grief processes. No other cluster of negative cognitive, behavioral, and emotional symptoms is considered as 'normal' as those that define grief reactions (Lichtenthal, Cruess, & Prigerson, 2004). After the loss of a significant other, impairment is expected and is thought to be part of the normal grieving process. In addition, cultural differences need to be taken into account when defining a normal grieving process. Therefore, diagnostic criteria for complicated grief disorder can only be derived from a clear definition of a 'normal' grieving process.

However, it is not only the lack of clear diagnostic criteria for complicated grief disorder that is a basis for ongoing debate and needs further research. Online therapies also have limitations that require further research and call for caution to be taken. It is important to note that Internet-based treatment may not suit all patients, making it important to screen patients carefully and work only with those likely to benefit from it (Suler, 2001). One potential challenge of Internet-based bereavement treatment is the potential for misunderstandings in the absence of spontaneous clarification (Rochlen, Zack, & Speyer, 2004). On the one hand, important information might be withheld from the therapist, potentially leading to incorrect conclusions being drawn. On the other hand, the patient might misinterpret the therapist's feedback. Another concern relates to how the therapist can respond if a patient becomes suicidal/homicidal (Mitchell & Murphy, 1998) and expresses such thoughts in her/his letter – it is practically impossible to respond to the patient's crisis in a reliable and timely way (Knaevelsrud, Jager, & Maercker, 2004). We are currently testing this new form of bereavement intervention in a randomized controlled clinical trial. This case study is an example of our research, which might provide a starting point for future studies in which the effectiveness of Internet-based bereavement treatment is investigated further.

7. Internet-Based Cognitive-Behavioral Therapy for Complicated Grief: A Randomized Controlled Trial

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7.1. Abstract

The present study investigates the efficacy of an Internet-based cognitive-behavioral therapy program for bereaved people suffering complicated grief. The program combines established methods of psychotherapy with new technology – therapists and patients communicated exclusively by e-mail. Bereaved individuals diagnosed with complicated grief (n = 55) were randomly assigned to either the treatment group or a waiting list control condition. The 5-week intervention consisted of three modules: (1) exposure to bereavement cues; (2) cognitive reappraisal; and (3) integration and restoration. The Impact of Event Scale (IES), a failure to adapt scale, and the depression and anxiety subscales of the Brief Symptom Inventory (BSI) were used to assess treatment outcomes. Participants in the treatment group (n = 26) improved significantly relative to participants in the waiting condition on symptoms of intrusion, avoidance, maladaptive behavior, and general psychopathology, and showed a large treatment effect. Follow-up results show that this improvement was maintained after 3 months.

7.2. Introduction

We begin this paper by describing the diagnostic criteria for complicated grief based on Horowitz's (1997) stress response model, which is used to assess treatment outcomes in this study. Previous research on other Internet-based therapies is reviewed and the rationale for administering this form of treatment to bereaved individuals is outlined. Finally, in the core section of the paper, we present data from a randomized controlled study for patients diagnosed with complicated grief.

Two of the most widely discussed issues in bereavement research and practice are the effectiveness of bereavement interventions and counseling, and the question of who benefits from these interventions (Forte, Hill, Pazder, & Feudtner, 2004; Kato & Mann, 1999; Litterer Allumbaugh & Hoyt, 1999; Neimeyer 2000; Rosner, Kruse, & Hagl, 2005). The bereavement literature suggests that interventions for normal grievers generally have modest effects on outcome variables, whereas interventions aimed at patients suffering complicated grief (Shear, Frank, Houck, & Reynolds, 2005; Wagner, Knaevelsrud, & Maercker, 2005) or patients at high risk for poor bereavement outcomes (Schut, Stroebe, van den Bout, & Terheggen, 2001) show reliable positive effects. Little research has been done on treatments specifically aimed at patients with complicated grief, however. In a recent study, Shear et al. (2005) investigated the relative efficacy of cognitive-behavioral treatment (CBT) and interpersonal psychotherapy for complicated grief. Although both treatments improved symptomatology, responses to CBT were more favorable and faster than responses to interpersonal psychotherapy.

Two new diagnostic approaches to complicated grief (CG) have been proposed in recent years (Horowitz, Siegel, Holen, Bonanno, Milbrath, & Stinson, 1997; Prigerson et al., 1995; Prigerson et al., 1996). According to Horowitz's stress response model (1993, 2001; Horowitz et al., 1997; Langner & Maercker, 2005), complicated grief disorder bears several similarities to posttraumatic stress disorder (PTSD): intrusion and avoidance, together with signs of maladaptive behavior (or failure to adapt), are assumed to be central processes or symptoms of both PTSD and complicated grief. Various studies have found evidence for the stress response operationalization of complicated grief (Kersting, Wesselmann, Ohrmann, Baez, &

Arolt, 2002; Langner & Maercker, 2005; Tomita & Kitamura, 2001). Specifically, there is increasing evidence of avoidance processes in complicated grief (Boelen, van den Bout, & van den Hout, 2003; Schut, de Keijser, van den Bout, & Dijkhuis, 1991; Shear et al., 2005), which distinguish the Horowitz model from Prigerson's more widespread CG model (Prigerson et al., 1996, 1999). Although the two approaches show notable overlaps with respect to the role of various intrusive and maladaptive processes, Prigerson's model does not cover avoidance symptoms (Lichtenthal, Cruess, & Prigerson, 2004). Based on previous studies conducted on the CG stress response model within our research group (Langner & Maercker, 2005; Forstmeier & Maercker, 2006), Horowitz's model was chosen for the present study.

Regardless of these differences in diagnostic approaches, there are a broad number of counseling programs for individuals with CG. Increased Internet access has led to enhanced online representation of the bereaved, e.g., with support groups, mailing lists, chat rooms (text-based real-time communication), and the provision of information and practical advice (e.g., addresses of lawyers who specialize in representing crime victims). The Internet has also increased the therapeutic potential of computers (e.g., for patients living in remote areas, physically disabled patients, and patients fearing stigmatization; Lange, van de Ven, Schrieken, & Emmelkamp, 2001). Internet-based psychotherapeutic interventions allow therapists to provide patients with feedback and protocol-based writing instructions tailored to their specific needs via computer.

Although little research has been done on the online behavior of bereaved people, Vanderwerker and Prigerson (2004) have established that 60% of bereaved individuals use the Internet and 50% communicate by e-mail in order to receive social support. The overall social support obtained through these new technologies seems to be protective against major depressive disorder, complicated grief, and PTSD, and to be associated with better quality of life. It thus seems reasonable to assume that an Internet-based intervention might be especially beneficial for patients who have lost a close person under traumatic circumstances and/or who are suffering complicated grief (Wagner et al., 2005). Lange and colleagues (Lange, Rietdijk, Hudcovicova, van den Ven, Schrieken, & Emmelkamp, 2003; Lange, Schrieken, van den Ven, et al., 2000; Lange et al., 2001) were among the first to evaluate the potential of Internet-based therapy for PTSD. Based on the findings of Pennebaker (1997), the central

therapeutic procedure of their Internet-based treatment involved writing assignments. Over the past 20 years, numerous well-controlled studies about written disclosure of stressful experiences have shown positive effects on physical and psychological health (Berry & Pennebaker, 1993; Harber & Pennebaker, 1992; Murray, Lamnin, & Carver, 1989; Pennebaker, 1993; Pennebaker, Kiecolt-Glaser, & Glaser, 1988; Pennebaker & Klihr-Beall, 1986). Structured writing assignments might give patients with complicated grief an opportunity for narrative reflection and for the transformation of their tragedies in their texts. In other words, the use of narrative strategies in writing assignments might facilitate the integration and transformation of traumatic experiences (Neimeyer, 2004).

The aim of the present study was to develop a cognitive-behavioral Internet-based treatment program and to evaluate this program in a sample of patients with complicated grief. Given the presence of the trauma-like symptoms of avoidance and intrusion in complicated grief, our Internet-based program drew on established cognitive-behavioral techniques that have been shown to produce optimal outcomes in face-to-face trauma counseling (i.e., Foa and Rothbaum, 1998). The basis for the complicated grief treatment protocol was the 'Interapy' protocol for posttraumatic stress disorder (Lange, Schoutrop, Schrieken, & van de Ven, 2002), which comprises three modules: 1) exposure to bereavement cues; 2) cognitive reappraisal; 3) integration and restoration. The first phase of the intervention involved imaginal exposure to bereavement cues. Kavanagh (1990) was the first to use the technique of *controlled exposure*, which recognizes that bereaved people need to confront grief by deliberate exposure to bereavement cues. Only then can they develop skills for confronting and coping with distressing stimuli. The second phase of the treatment protocol uses the techniques of cognitive therapy for cognitive restructuring, with dysfunctional thoughts being identified and challenged (Ehlers & Clark, 2000; Resick & Schnicke, 1992). While the exposure phase is similar to the PTSD treatment protocol, the cognitive restructuring phase focuses on rather different elements. Aspects of the treatment protocol for complicated grief are: a) helping the patient to remember the deceased in a more comforting way, focusing on positive memories and creating a new life narrative that integrates the loss into the patient's biography (Neimeyer & Levitt, 2001); b) questioning of biased automatic thinking such as feelings of guilt and self-blame; i.e., feeling responsible for the death (Kubany, 1997);

c) encouraging the development of rituals or activities to remember the deceased by, and to give the deceased person a place in one's life (Neimeyer, Prigerson, & Davies, 2002); d) reactivating social networks and increasing social support. The third phase of the intervention gives patients the opportunity to review the therapeutic progress, anticipate the future, and define new personal goals without the deceased. The aim is not to achieve detachment from the deceased, but rather to integrate the deceased into the continuing life of the bereaved patient (Klaas, 1999). All three phases mirror the Dual-Process Model (DPM) of coping with bereavement, a framework seeking to explain how bereaved people adapt to the loss of a close person (Stroebe & Schut, 1999). According the DPM, grieving persons have to deal with two main types of stressors: loss-orientated stressors and restoration-orientated stressors. While the exposure phase emphasizes loss-orientated coping, phases two and three are focused on restoration and integration. We expect to observe significant improvement in participants' symptoms immediately after the treatment program and at follow-up three months later.

7.3. Method

7.3.1. Recruitment and Procedure

Participants were recruited through announcements in the print media as well as advertisements and links posted on psychology websites and the websites of organizations for bereaved persons. Due to the worldwide accessibility of the Internet, the participants did not come from a specific area. Some lived in the German-speaking countries of Germany, Austria, and Switzerland; others were native German-speakers living in other countries due to marriage, work, etc. The first step in the treatment process started with potential participants accessing our homepage, which provided information on complicated grief, the present treatment program, and alternative treatments. Participants who applied for the treatment program entered a screening procedure. Those who did not fulfill the inclusion criteria were informed about other forms of treatment that might help them. After confidentiality issues had been addressed, applicants returned a signed informed consent form. The computer assigned participants randomly to the (immediate) treatment condition or to the waiting condition. Treatment lasted five weeks, after which participants completed a

posttest questionnaire. Three months later, they were asked to complete a follow-up questionnaire.

7.3.2. Assessment

Criteria for inclusion were symptoms of intrusion, avoidance, and maladaptive behavior caused by the death of a significant other within predetermined cut-off scores.

7.3.3. Exclusion criteria

Online diagnostic self-report questionnaires were used to determine whether or not applicants were admitted to the program. Applicants were excluded if they met any of the following criteria:

Currently receiving treatment elsewhere, substance abuse, time since loss less than 14 months, age younger than 18 years, not fluent in German. These criteria were assessed using the Biographical Information Questionnaire (BIQ; Lange, Schrieken, Blankers, van den Ven, & Slot, 2000).

Severely depressed mood or suicidal intentions. Applicants were excluded if their score on the depression subscale of the SCL-90 (Brief Symptom Inventory, BSI, Derogatis, 1992) exceeded the cut-off score for the highly depressed group. Risk of suicide was measured using the Suicide Risk Assessment (SRA; Arnoldi, van den Ven, Schrieken, & Lange, 2000), a six-item self-report questionnaire designed to capture suicidal tendencies. It covers suicidal plans, previous suicide attempts, and current suicidal intentions.

Dissociative Tendency. Dissociative symptoms were tapped by the Somatoform Dissociation Questionnaire (SDQ-5; Nijenhuis, Spinhoven, van Dyck, van der Hart, & Vanderlinden, 1997). The scale consists of five items, which are rated on a 5-point Likert scale (1 = not at all, 5 = very often). The internal consistency of the SDQ-5 is good (α = .80). Participants scoring above the SDQ-5 cut-off score were excluded from the program.

Risk of psychosis. Risk of psychosis was measured using the Dutch Screening Device for Psychotic Disorder (Lange, Schrieken, Blankers, et al., 2000). This seven-item inventory has high internal consistency (α = .82) and is a good predictor of psychotic episodes. Since no data are yet available from a German norm group, the

Dutch norm data were used. Participants were excluded if they scored above the cut-off score or indicated that they use neuroleptic medication.

7.3.4. Outcome Measures

Mean outcome for complicated grief symptoms was measured using a comprehensive set of symptom criteria based on Horowitz's stress response model of CG (Horowitz et al., 1997; Langner & Maercker, 2005). Three symptom clusters are covered: intrusion, avoidance, and failure to adapt. CG is diagnosed when an individual shows high scores on all three symptom clusters. In the current study, intrusion and avoidance were measured by the Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979; Zilberg, Weiss, & Horowitz, 1982). The IES intrusion subscale (IES-I, range 0 to 35) comprises seven items, the avoidance subscale (IES-A, range 0 to 40) eight items. Participants were asked to indicate the frequency of each symptom during the last 7 days on a 4-point Likert scale (0, 1, 3, 5). The internal consistency coefficients of the German version range from $\alpha = .75$ to $\alpha = .90$. Failure to adapt was measured by a specially developed scale containing five items from the revised symptom list for complicated grief (Langner & Maercker, 2005) that covered the following aspects: 1) trouble sleeping, 2) feeling worthless, 3) an altered sense of future, and 4) feeling lonely or empty. The five-item scale had a reliability coefficient of $\alpha = .76$ in our sample.

Depression and anxiety. The depression and anxiety subscales of the short form of the SCL-90 (Brief Symptom Inventory, BSI, Derogatis, 1992) were used to measure the effects of treatment on psychological dysfunction in dimensions related to posttraumatic stress symptoms. The two subscales contain six items each. Each item was rated on a 5-point Likert scale (0 = not at all, 4 = extremely).

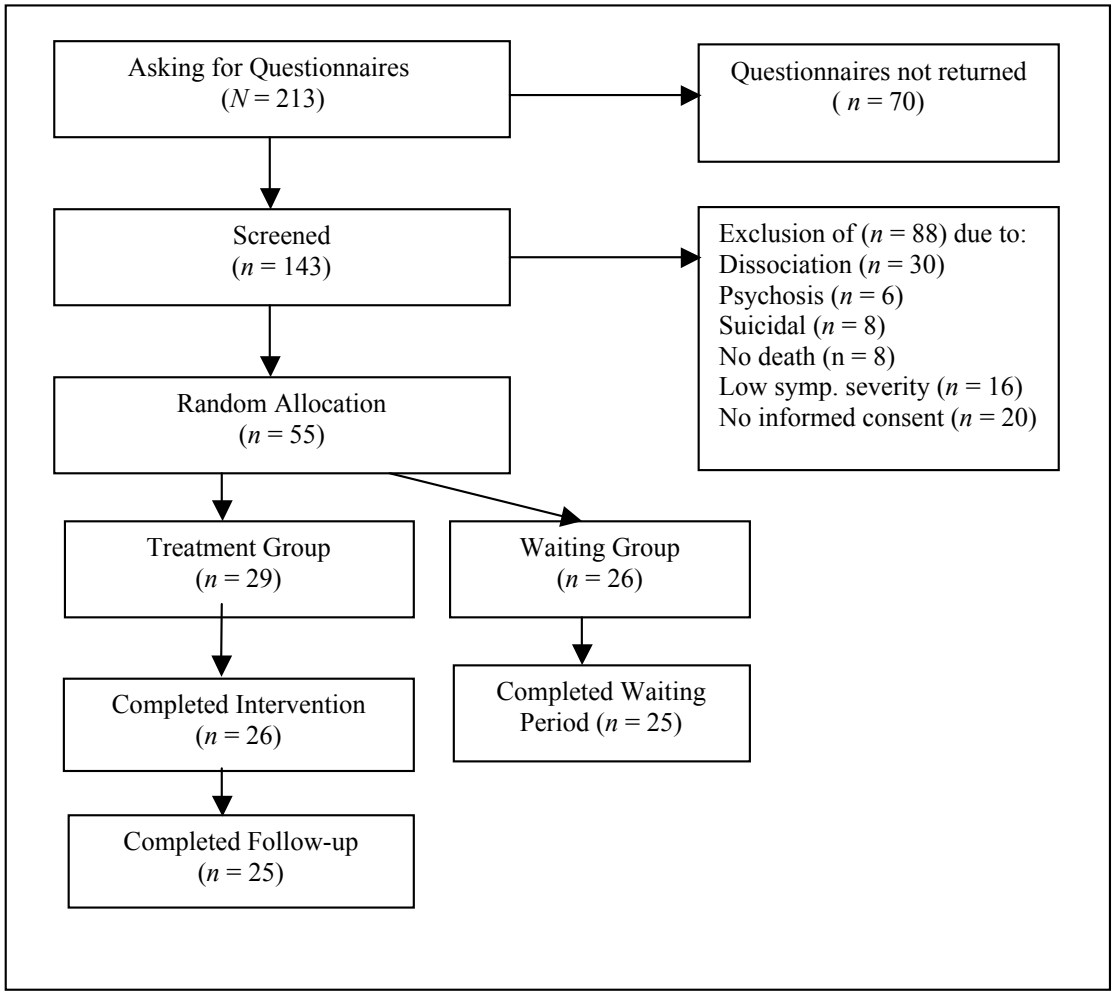
General mental and physical health. The SF-12 (Ware, Kosinski, & Keller, 1996), a 12-item short form of the Medical Outcome Study Self-Report, was used to assess physical and psychological functioning.

The *Biographical Information Questionnaire* (BIQ; Lange, Schrieken, van de Ven, et al., 2000) was used to assess additional information; e.g., educational level, employment status, Internet experience, evaluation of the treatment program at posttest.

7.3.5. Participants

Owing to the novelty of our Internet-based treatment program, the study received a great deal of attention from the media and organizations working with bereaved people.

Figure 3. *Flowchart of participant progress*



A total of 213 people requested questionnaires; 70 did not commit themselves to the screening process; 88 were excluded on the basis of the exclusion criteria. The 55 applicants who passed the screening procedure and returned the informed consent form were randomly assigned to the treatment (n = 29) or waiting condition (n = 26). Participant flow is shown in Figure 3. The average age was 37.0 years (SD = 10.2; range: 19-68 years); all but four patients were female. Time elapsed since bereavement ranged from 14 months to 29 years (M = 4.6 years; SD = 6.6). The

majority (61%; *n* = 31) were grieving the death of a child; 10% (*n* = 5*)* the death of a spouse/partner; 12% (*n* = 6) the death of a brother or sister; 6% (*n* = 3) the death of a parent or both parents; 4% (*n* = 2) the death of a relative; and 4% (*n* = 3) the death of a friend.

Table 6. *Demographics and Sample Characteristics*[*]

Characteristics	Treatment group (*n* = 26)	Control group (*n* = 25)
Age, M (SD), y	37.3 (11.7)	37.9 (8.9)
Time since loss, M (SD), y	4.4 (6,1)	4.8 (7.0)
Female sex	84.6	100
Marital status		
Single	19.2	32
Partnership	61.5	48
Divorced	15.4	8
Education		
High School	19.2	12
Secondary School	38.4	40
University	42.3	20
Cause of death		
Disease	36	36
Accident	28	24
Suicide/homicide	20	20
Stillbirth/SID	16	20
Relationship with the deceased		
Child	64	60
Partner	12	8
Brother/sister	4	4
Mother/Father	4	8
Relative	4	4
Friend	12	16

* All values expressed as percentages unless otherwise indicated

Cause of death was illness in 35% (*n* = 18) of cases; accident in 27% (*n* = 13) of cases; homicide or suicide in 18% (*n* = 10) of cases; and stillbirth or SID (sudden infant death) in 17% (*n* = 9) of cases. 31% (*n* = 15) of the participants had a university degree and 41% (*n* = 20) had a secondary school leaving certificate. Table 6 documents the demographic characteristics of participants in the treatment and control conditions at baseline. Scores on the IES indicate that participants suffered greatly. The mean scores on the intrusion (M = 25.53, SD = 5.63) and avoidance (M = 16.61, SD = 10.12) subscales were in the upper regions of the norm table for Dutch PTSD

patients (Kleber & Brom, 1986). 70% (n = 18) of participants were above the IES cut-off score (Neal et al. 1994) of 35.0 for the combined avoidance and intrusion subscales, and 45% (n = 23) reported severe symptoms of avoidance and intrusion, with scores exceeding 44.0. Participants also reported high levels of depressive symptoms. At pretreatment assessment, there were no significant differences between the treatment and control groups on any of the demographic or psychopathological variables. Of the participants who began the treatment program, 8% (n = 4) did not complete the first phase, and were considered dropouts: one participant would have preferred face-to-face contact; two said it was too soon after the death; one participant did not give any reasons.

7.3.6. Therapists

The therapists conducting the treatment were psychologists trained in cognitive-behavioral psychotherapy, who had received special training in therapeutic writing for the treatment of PTSD and complicated grief. The therapists also participated in weekly supervision sessions.

7.3.7. Treatment protocol

Patients were set two weekly 45-minute writing assignments over a period of approximately five weeks, with the therapist and patient communicating exclusively by e-mail. After every second essay, patients received feedback and further instructions from the therapist. These instructions (which were sent within one working day) were based on a cognitive-behavioral treatment protocol but tailored to the individual patient's needs. At the beginning of each phase of treatment, patients received psycho-education on the principles of the treatment module. The treatment protocol comprised the following three phases:

<u>First phase: Exposure to bereavement cues</u>

First, patients were instructed to write two essays on the circumstances of the death. They were asked to express all their fears and thoughts about the event and to focus on sensory perceptions in as much detail as possible. Participants were asked to write their essays in the present tense, in the first person, and without worrying about grammar, style, or the logical chronology of events. After the first two writing sessions, the therapist instructed the patient to concentrate on one moment that kept

coming to mind intrusively, but that was so distressing that he or she could hardly bear thinking about it. The following is an example of a writing assignment set for essays 3 and 4:

"For the next two texts, I would like to ask you to choose one moment of your son's death. One moment that you can hardly bear to think about, but that keeps intruding on your thoughts. Describe the picture you have when you think of your son's death. Write down the most painful memories and emotions you have when you think of him and describe everything that you experience – every feeling, every thought and physical reaction."

Second phase: Cognitive reappraisal

In this cognitive restructuring phase, patients were instructed to write a supportive and encouraging letter to a hypothetical friend. They were asked to imagine that this friend had also experienced the loss of a significant other and was now facing the same difficulties. The letter should reflect on guilt feelings, challenge dysfunctional automatic thinking and behavior patterns, and correct unrealistic assumptions. The aim was to foster the development of new perspectives on the death and its circumstances. An example instruction for the first two essays in this phase is as follows:

"Imagine you are writing a supportive letter to your friend Susan, who experienced the same situation as you. Could she have foreseen what happened to Phillip? Do you think she was responsible for his death? What meaning does the death of her son have in her life?"

The second part of this second phase focuses on helping bereaved patients to define a new role and identity for themselves after the loss, to identify the lessons learnt from the death, and to regain a sense of control over their lives. The patients were encouraged to think about rituals to remember the deceased by, to re-access positive memories of the deceased, and to activate resources such as social contacts, positive competences and experiences.

"Try to imagine how your friend might feel if she did not feel somehow responsible for the death. Might she have a feeling of forgetting her son, or of abandoning him? How might your friend focus on more positive memories of the time she and her son experienced together? How might Susan integrate her memories of her son into her present life (e.g., in the form of activities or rituals)? Which activities might Susan take pleasure in today; are there situations she is able to enjoy? You have written that your friend should give her life new meaning. Have you an idea of which direction this might take?"

Third phase: Integration and restoration

In this third treatment module, patients outline their most important memories regarding the death of their loved one, reflect on the therapeutic process and how the loss has changed them, and describe how they are going to cope now and in future. They are asked to write a letter to a significant person, to someone who was with them at the time of the death, or to themselves. The letter could be sent after finishing the therapy, but this was not obligatory. The following is an example of the therapist's instruction:

"*You wrote that you would like to write the letter to your deceased son Phillip. First, I would like to ask you to describe the circumstances of his death from your perspective, how you have experienced it. Which moments were so important that you would like to tell him about them? 'What meaning does his death have in my life? What plans do I have for the future? Who is important in my life, and who can support me in future?' It is important to give the past, the present and the future the same weight in this letter."*

7.4. Results

The study design involved a between-groups factor (treatment vs. waiting list) and a within-group factor (pretreatment vs. posttreatment). The participants were randomly allocated to the treatment condition or the control condition. For ethical reasons, the participants assigned to the control condition received treatment five weeks after the treatment group had terminated the program, instead of waiting for the

follow-up results. Initial examination of participants' baseline scores on the three CG subscales (intrusion, avoidance, and failure to adapt), the BSI, and the SF-12 indicated that all scores were normally distributed. Therefore, we used multivariate analyses of variance (MANOVAs) and analyses of variance (ANOVAs) to test for interaction effects between the treatment and the control condition. The differences between pre- and posttreatment were analyzed and significant interactions between time and treatment were interpreted to indicate differential development in the two groups over time. Scores at 3-month follow-up were compared with pre- and posttreatment scores. Effect sizes were calculated to evaluate the magnitude of treatment gains.

7.4.1. Symptoms of complicated grief (intrusion, avoidance, and failure to adapt)

Table 7 presents the means and standard deviations of the main variables for each condition at baseline, posttreatment, and 3-month follow-up. Symptoms of intrusion, avoidance, and failure to adapt decreased markedly in the treatment condition between pre- and posttreatment. Significant effects of time on all measures were qualified by significant Condition x Time interactions (see Table 7).

Intrusion and Avoidance. A MANOVA for repeated measures (intrusion and avoidance) with time (pre/posttest) as within-subject variable and condition as between-subjects variable showed a significant effect of time, F (2,47) = 29.37, $p <$ .0001, a significant effect of condition, F (2,47) = 7.74, $p <$ .001, and a significant interaction effect, F (2,47) = 13.16 $p <$ .0001. This confirms that the decrease in intrusion and avoidance symptoms in the treatment condition is significantly larger than that in the control condition. Univariate analyses (ANOVA) of intrusion and avoidance subscale scores produced similar results. For intrusion, a repeated measures effect, F (1,48) = 38.01, $p <$ .0001, a significant effect of condition, F (1,48) =13.74, $p <$ .001, and a significant interaction effect of condition and time, F (1,48) = 11.16, $p <$ .002, emerged. Avoidance showed a time effect, F (1,48) = 24.32, $p <$ .0001, a close-to-significant condition effect, F (1,48) = 3.52, $p <$ .06, and a significant interaction effect, F (1,48) = 17.21, $p <$ .0001. For failure to adapt, an ANOVA for repeated measures yielded a significant effect of time, F (1,48) = 40.32, p < .0001, a significant effect of condition, F (1,48) = 4.16, $p <$ .05, and a significant interaction effect, F

(1,48) = 9.79, p < .01, supporting the finding that the decrease in failure to adapt in the treatment condition is significantly larger than that in the control condition.

7.4.2. General Psychopathology

Table 7 shows the means and standard deviations for depression, anxiety, and general physical and psychological functioning. The data show an overall improvement in depression-related symptoms and psychological functioning; the treatment and control group do not differ in terms of physical symptom complaints.

Brief Symptom Inventory. A MANOVA for repeated measures (anxiety and depression) showed a significant repeated measures effect of time, F (2,47) =27.10, p < .0001, and a significant interaction between pre- and posttreatment, F (2,47) = 6.13, p < .004. The main effect for condition was not significant, F (2,47) = .83, p < .43. Univariate analyses of the anxiety subscale showed a significant effect of time, F (1,48) = 11.47, p < .001, and interaction, F (1,48) = 6.73, p < .01, and no significant effect of condition, F (1,48) = .32, p< .57. Separate ANOVAs for the depression subscale for time, F (1,48) = 53.65, p < .0001, and interaction, F (1,48) = 9.35, p < .004, showed that improvement in the treatment group was larger than in the control group. There was no condition effect, F (1,48) = 1.64, p < .20. Mental and physical health. Univariate analyses (ANOVA) of the mental health subscale revealed a significant effect of time, F (1,47) = 17.61, p < .0001, and a close-to-significant interaction effect, F (1,47) =2.93, p < .09. The physical functioning subscale ratings showed no effect of time, F (1,47) = .016, p < .90 and no interaction effect, F (1,47) = .001, p < .97. 7.4.3.

Effect sizes

Effect sizes were calculated using Cohen's *d* for repeated measures (Cohen, 1988) to quantify the magnitude of change in mean symptoms between pre- and posttest and between pretest and 3-month follow-up, respectively. By Cohen's (1988) standards for research in the behavioral sciences, an effect size *d* = .80 for treatment effects in psychotherapy is considered large. For complicated grief symptoms (intrusion, avoidance, and failure to adapt), very large effect sizes of treatment were found at posttreatment (*d* = 1.25 to *d* = 1.52) and 3-month follow-up (*d* = 1.17 to *d* = 1.63). Large treatment effect sizes were also found at posttreatment for symptoms of

Table 7. *Means (and Standard Deviations) and Effect Sizes of the Outcome Variables by Treatment and Control Group*

	Pretest		Posttest		Follow-up		Effect size Pre to Post	Effect size Pre to 3-month	Condition x Pre-Post Effect	
									F	*p*
Intrusion-IES										
Treatment	24.31	(6.75)	12.81	(8.30)	13.33	(6.70)	1.52	1.63	11.16	< .01
Control	26.60	(4.90)	22.83	(8.08)	-	-	.56	-		
Avoidance-IES										
Treatment	17.19	(10.46)	6.08	(6.84)	6.37	(6.12)	1.25	1.26	17.21	< .0001
Control	16.68	(9.74)	15.67	(10.48)	-	-	.09	-		
Failure to adapt-Scale										
Treatment	11.26	(5.14)	4.76	(3.55)	5.41	(4.84)	1.47	1.17	9.79	< .01
Control	12.00	(6.51)	9.87	(6.89)	-	-	.31	-		
Depression-BSI										
Treatment	9.73	(3.84)	4.15	(2.41)	4.79	(3.91)	1.74	1.27	9.35	< .01
Control	9.36	(4.55)	7.13	(5.19)	-	-	.45	-		
Anxiety-BSI										
Treatment	7.50	(3.61)	4.04	(3.54)	4.12	(3.55)	.96	.94	6.73	< .01
Control	6.48	(4.45)	6.13	(4.92)	-	-	.07	-		
Mental Health-SF-12										
Treatment	35.72	(5.75)	41.79	(6.60)	39.89	(7.10)	.98	.64	2.93	= .09
Control	34.19	(5.76)	36.53	(6.43)	-	-	-.38	-		
Physical Health-SF-12										
Treatment	47.17	(5.46)	47.03	(6.07)	47.49	(4.90)	.02	-.06	0.001	= .97
Control	46.93	(4.32)	47.09	(5.34)	-	-	-.03	-		

Treatment group: $n = 26$, control group: $n = 25$

depression (d = 1.74) and for the anxiety subscale (d = .96). General mental health showed improvement at posttreatment (d = .98), but the treatment effect sizes for physical functioning subscale were near zero at both points of measurement. Low to moderate effect sizes were also found for the control condition. Some improvement was seen in symptoms of intrusion (d = .56) and depression (d = .45), but effects on avoidance (d = .09) and the failure to adapt scale (d = .31) were less pronounced. Table 7 reports the effect sizes at posttreatment and follow-up for all outcome measures and both conditions.

7.4.4. Reliable Change and Clinical Significance

Two indicators were used to determine statistically reliable improvement in response to treatment: reliable change and clinical significance. First, we calculated the reliable change index (RCI) for each participant using the method proposed by Jacobson and Truax (1991).[1] Table 8 reports the percentage of participants in the treatment and control groups who showed reliable improvement according to this criterion.

Table 8. *Percentage of Patients Showing Reliable Change at Posttest*

	Reliable change %			
Scale	Treatment	Control	χ^2	$p <$
IES-Intrusions	57	12	13.34	.001
IES-Avoidance	38	4	15.68	.0001
Failure to adapt	26	12	18.00	.0001

Treatment group n = 26, Control group n = 24

The second criterion of meaningfully reliable change established by Jacobson and Truax (1991) is clinically significant change. This requires that a participant's

[1] The RCI is used to determine whether change observed goes beyond expected measurement fluctuations. The RCI considers measurement error and its effects on variability of scores and is computed using the formula: $RC = x_2 - x_1 / S_{diff}$. The subject's pretest score is subtracted from his/her posttest score and divided by the standard error of difference between the two test scores. For the current analysis, Cronbach's alpha of internal consistency was used. The conventional value of RCI greater than 1.96 was set as the criterion for significant change ($p < .05$; Jacobson & Truax, 1991). Changes were considered indicative of deterioration if the RCI score was greater than or equal to 1.96.

score move from being closer to the mean of the dysfunctional population to being closer to the mean of the "normal" population. As stated above, a cut-off score of 35 was used for the combined avoidance and intrusion subscales following Neal et al. (1994). Patients with a posttreatment score lower than 35 achieved a clinically significant change. This applied to 21 (81%) of the 26 patients in the treatment condition and 8 (33%) of the 25 patients in the control condition. These differences proved to be significant (χ^2 = 11.52, *df* = 1, *p* = .001). At 3-month follow-up, only 2 (8%) of the patients in the treatment group still showed PTSD symptoms above the cut-off score (see Table 9).

7.4.5. Outcomes at 3-month follow-up

Table 7 shows the mean scores at follow-up for 25 of the 26 participants who completed the treatment program. One participant did not return the follow-up questionnaire. No significant differences were discerned between posttreatment and follow-up.

Table 9. *Percentage of patients with complaints of clinical significance (Impact of Event Scale cut-off 35)*

	Pretest (%)	Posttest (%)	3-month Follow-up (%)
Treatment group	69	19	8
Waiting-list	72	67	-

Treatment group *n* = 26, Control group *n* = 24

7.4.6. Intention-to-treat analysis

The intent-to-treat analyses were performed using end-point imputation, and carrying forward non-completers' last available ratings to the next rating point. A MANOVA for repeated measures (intrusion and avoidance) showed a significant effect of time, F (2,50) = 26.27, *p* < .001, and significant interaction effect, F (2,50) = 11.66, *p* < .001. A significant interaction effect was also found for depression and anxiety, F (2,50) = 24.52, *p* < .01.

7.4.7. Treatment satisfaction

In a final analysis, we asked patients to report their experiences of the Internet-based therapy (Table 10). 82% of the patients described the therapeutic contact as personal, only 20% missed face-to-face contact with a therapist, and 85% had positive attitudes to being treated via Internet, instead of via face-to-face-contact.

Table 10. *Evaluation of Treatment Satisfaction in Percentages*

Questions	Answers	Percentage
How was the contact between the therapist and you like?	Personal	82%
	Impersonal	2%
	Don't know	4%
Did you miss face-to-face-communication with your therapist?	No	73%
	Yes	20%
	I don't know	8%
How did you experience the fact that you had contact with your therapist exclusively by e-mail?	Unpleasant	2%
	Pleasant	85%
	I don't know	13%
Do you think the treatment was an effective method to reduce your complaints?	No	4%
	A little	29%
	Quite a bit	45%
	Very strongly	10%

7.5. Discussion

The aim of this controlled study was to investigate the effects of an Internet-based treatment program for complicated grief. Consistent with our hypotheses, the new treatment approach proved to be effective for bereaved people suffering complicated grief, with the treatment group showing more favorable outcomes than the waiting list group. The treatment led to significant reductions in the severity of the main symptoms of complicated grief (i.e., intrusion, avoidance, failure to adapt) and in depression and anxiety. The hypothesized improvements were observed in the expected time frame, indicating that the trauma- and grief-focused modules of the program succeeded in addressing the symptoms targeted. No significant differences in indicators of physical functioning were found. In the treatment group, effect sizes of

up to $d = 1.5$ for pre- to posttreatment changes, and of up to $d = 1.6$ from pretreatment to 3-month follow-up compare very favorably with the overall weighted mean effect sizes of between $d = .1$ and .4 for bereavement interventions reported in a number of meta-analyses and review studies (Forte et al., 2004; Kato & Mann, 1999; Litterer Allumbaugh & Hoyt, 1999; Neimeyer, 2000; Wagner, et al. 2005). As expected, the treatment group maintained symptom improvement at 3-month follow-up. Patients in the treatment group showed clinically significant change at posttreatment, with 19% reporting symptoms of intrusion and avoidance, compared with 67% in the waiting list condition; there was further improvement at 3-month follow-up, with only 8% of patients in the treatment condition still reporting these symptoms. The percentage of patients who experienced reliable change was highest for intrusion and failure to adapt, but a considerable number of patients in the control group also showed reliable change and low to moderate effect sizes. This replicates previous findings of natural declines in bereavement-related symptoms (Jordan & Neimeyer, 2003; Ott & Lueger, 2002), but may also be attributable in part to information provided for ethical reasons during the application process.

There are probably several explanations for the efficacy of the treatment. One might be the cognitive-behavioral treatment protocol implemented, based on an effective theoretical model. Given the similarities between complicated grief and PTSD and the need to reconstruct meaning after the death of a close person, cognitive-behavioral therapy seems to be a suitable intervention for individuals suffering from complicated grief. We hypothesize that exposure to the tragic and often unexpected circumstances of death opens up pathological emotional structures that might have been blocking the grief process, similarly to conventional PTSD treatment. Shear et al. (2005) report comparable treatment effects in a study providing further support for our findings. Although these authors' complicated grief treatment was conducted face-to-face, it was based on a treatment manual containing elements similar to our treatment protocol. Trauma-like symptoms such as avoidance were addressed, with imaginal and in vivo exposure and a focus on the restoration of personal life goals.

Second, our study was aimed at patients who had experienced a traumatic or complicated bereavement. Most of the patients suffered greatly, as reflected by the severity of their symptoms. Furthermore, the high prevalence of parents who had lost

a child (61%) indicated that most patients were high-risk mourners (Jordan & Neimeyer, 2003). Patients who showed uncomplicated grief reactions were not included because we did not want to influence 'normal' grieving, which can be seen as a natural, though very painful process. Our intervention was aimed specifically at people suffering from complicated grief, unlike many of the bereavement interventions with low treatment effects reported in meta-analyses (Forte et al., 2004; Kato & Mann, 1999; Litterer Allumbaugh & Hoyt, 1999; Neimeyer, 2000), most of which were aimed at normal and uncomplicated grief reactions or implemented too early in the grief process.

Third, the patients experienced the Internet-based therapeutic relationship as strong and positive. Evaluation of the treatment at posttest showed positive attitudes to the online setting. This is in line with findings of Knaevelsrud and Maercker (2005a, 2005b), who found even higher ratings of the working alliance in a randomized Internet-based treatment for PTSD relative to ratings of a comparable face-to-face-therapy. The phenomenon of 'telepresence,' the feeling (or illusion) of experiencing a real or virtual therapist as present without sharing immediate physical space, seems to enable increased self-disclosure (Rochlen et al., 2004). Positive experiences of the therapeutic relationship might also explain the low dropout rate of 8%. Note that studies of face-to-face PTSD treatments involving exposure therapy have reported dropout rates of up to 28% (Foa, Rothbaum, Riggs, & Murdock, 1991).

Additional issues relating to this new intervention format are, for example, that the anonymity of the Internet might facilitate the disclosure of painful feelings and shame. The lack of physical gating features on the Internet (e.g., visible reactions of the therapist) might be an advantage, as it enables increased openness during the treatment program. Bereaved people who are socially isolated and do not have access to a wide range of potential listeners may also benefit from this treatment approach.

Furthermore, our study draws on another advantage of the Internet, namely geographical independence. Our sample was not limited to German-speaking patients from Germany, Austria, and Switzerland; many participants lived in places with limited possibilities for therapy in their native language (German); e.g. in Kenya, Rwanda, Spain, and the United Arab Emirates. Other benefits are the comparably low costs of an Internet-based intervention and the highly structured treatment protocol, which enables patients to complete the program in a relatively short time. Further,

therapists noted the benefits of delay; i.e., not having to respond immediately, as is the case in natural conversations. This lets the therapist reflect on and re-read patients' texts, the content of which is often very distressing, without having to respond immediately.

7.5.1. Limitations of the study

It is important to note that Internet-based treatments may not suit all patients and that careful screening of patients is essential. However, the screening procedure also highlights the limitations of the study: 41% of patients who requested treatment had to be excluded because they did not meet the strict inclusion criteria. Patients were recruited by means of announcements in the print media and on Internet websites for bereaved parents, widowed partners, etc. Therefore, our sample may have been biased in that participants were already actively looking for help on the Internet and/or felt more comfortable using the Internet. This might limit the generalizability of the findings, as might the fact that patients needed Internet access to participate.

Furthermore, treatment outcomes were measured by self-rated questionnaires administered through the Internet only. Although Internet administration of questionnaires has been shown to be reliable and valid (Anderson, Lundström, & Ström, 2003; Buchanan & Smith, 1999), an interview with the patient or another independent assessment would have added to the validity and clinical value of the results.

Another basic concern regarding Internet-based treatment is the potential for misunderstandings during the treatment interaction – important information might remain unmentioned, the therapist might draw incorrect conclusions, the therapist's feedback might be misinterpreted. Moreover, there is little possibility for crisis intervention. It might be helpful to obtain the contact numbers of a personal medical doctor in case of emergency. Finally, we cannot rule out the possibility that a grief assessment instrument may have yielded better measures of complicated grief. Future research should measure the symptoms identified by Horowitz (1997) with a more satisfactory assessment instrument. The current study is the first to evaluate the efficacy of an Internet-based cognitive-behavioral treatment program for complicated grief; further research is now needed to replicate these findings. Our results indicate

that this approach is a promising one and that treatment providers should consider extending the availability and accessibility of this low-cost treatment for complicated grief.

8. Impact of an Internet-based Intervention (INTERAPY) for Complicated Grief on Personal Growth: A Randomized Controlled Trial

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(submitted)

8.1. Abstract

In this study, the authors examined the effects of an Internet-based cognitive-behavioral intervention (Interapy) for complicated grief on personal growth and optimism. Bereaved individuals with complicated grief diagnosis (n = 55) were randomly assigned to either the treatment group (n = 26) or the waiting list control condition (n = 25). Treatment included three modules: (1) self-confrontation with the circumstances of the death of a significant person; (2) cognitive reappraisal and (3) social sharing. Significant Time x Condition effects indicated that personal growth increased during the treatment. However, there was no treatment effect found for optimism. The therapeutic relationship did not influence personal growth significantly over time.

8.2. Introduction

Research on change of posttraumatic growth during interventions has been sparse. Posttraumatic growth after psychological intervention has been the subject of research in only very few studies. Mainly treatment programs for breast cancer patients were empirically investigated with benefit finding or personal growth as outcome variables (Antoni et al., 2001; Kissane et al. 2003; Mc Gregor, Antoni, Boyers, Alferi, Blomberg, & Carver, 2004; Cruess, et al., 2000). These studies demonstrated an increase of personal growth after group therapy. In addition, Antoni et al. (2001) also found an increased generalized optimism after a 10-week group cognitive-behavioral stress management intervention. The first study, which evaluated the influence of an Internet-based intervention on posttraumatic growth, was an electronic support group for breast carcinoma patients (Lieberman, et al., 2003). The study revealed increased personal growth in two subscales: New possibilities and Spirituality. The therapists did not impose a set agenda for the sessions but were specially trained to encourage the participants to become empowered to make active choices in their recovery. Very little empirical evidence exists concerning the effect of a bereavement intervention on personal growth. With their case illustration Yalom and Lieberman (1991) demonstrated in an early study the effect of a spousal bereavement group intervention, though it is unclear which changes actually derived from therapy itself. In another study Bower, Kemeny, Taylor, & Fahey (2003) examined the impact of bereavement-related written disclosure intervention with regard to changes in meaning-related goals and natural killer cell activity (NKCC). Contrary to their predictions, writing about the death of a close person did not reveal positive changes of the two outcomes. However, the intervention could not be compared with psychotherapeutic intervention. In the past years research groups have found significant evidence that complicated grief has its own specific symptom pattern and is an entity distinct from depression, PTSD and adjustment disorder (Lichtenthal, Cruess, & Prigerson, 2004; Boelen, van den Bout, & de Keijser, 2003; Prigerson et al., 1995). Horowitz et al. (Horowitz, 1993, 2001; Horowitz et al., 1997; Langner & Maercker, 2005) published criteria for complicated grief disorder, which is based on the stress response theory and has a generic relationship to PTSD in the sense that it occurs after a stressful event and results from exposure to it. Analogously to people who develop posttraumatic growth after PTSD, people who suffer of

complicated grief may develop (posttraumatic or) bereavement-related growth. The confrontation with one's finality may elicit a re-evaluation of life priorities, appreciation of life, interpersonal relationships, spirituality and personal resources (Tedeschi & Calhoun, 1995). A number of studies have found that certain bereaved individuals are able to find beneficial changes such as increased compassion and improvements in their marital and family relationships (Shanfield & Swain, 1984). Others reported improved interpersonal changes (Miles & Crandall, 1983), or increased maturity that was reflected in greater insights into life and death (Davies, 1991). In contrast to treatment studies with PTSD (e.g. Bradley, Greene, Russ, Dutra, & Westen, 2005; Foa et al., 1999; Foa, Rothbaum, Riggs, & Murdock, 1991; Rothbaum & Schwartz, 2002), most empirical studies investigating the efficacy of non-selected bereavement interventions have shown a general paucity of treatment efficacy (e.g. Forte, Hill, Pazder, & Feudtner, 2004; Kato & Mann, 1999; Lichtenthal et al., 2004; Litterer Allumbaugh & Hoyt, 1999; Neimeyer 2000). In the last years, Internet-based cognitive-behavioral interventions (Interapy) for PTSD (Lange et al., 2000, 2003; Lange, van de Ven, Schrieken, & Emmelkamp, 2001, Knaevelsrud & Maercker, 2005) and complicated grief (Wagner, Knaevelsrud, & Maercker, 2005) have been proved to be effective treatments. The treatment outcome in Internet-based therapy was related to the quality of the therapeutic relationship, even though not as strongly as in face-to-face therapies (Knaevelsrud et al., 2005).

The present study had three objectives. First, we wanted to examine the impact of an Internet-based treatment on patterns of personal growth and optimism. It was expected that both variables would increase during the therapeutic process. Second, we wanted to investigate whether treatment success is related to increase of personal growth or optimism. We hypothesized that the degree of treatment success would positively predict levels of personal growth or optimism. Third, it was hypothesized that the quality of the therapist-patient relationship would predict personal growth outcome.

8.3. Method

8.3.1. Sample

Using data from a randomized-controlled trial of an Internet-based cognitive-behavioral treatment for complicated grief (Wagner, Knaevelsrud, & Maercker,

2005), the participants for this study were mainly recruited through advertisements and links posted on general psychology websites and on websites of different organizations, which support e.g. bereaved parents, widowed partners. Applicants were excluded from the treatment if they met the following criteria: 1) severely depressed mood and suicidal tendencies, 2) risk of psychosis, 3) substance abuse, 4) tendency to psychological dissociation, 5) being under 18 years old, and 6) treatment elsewhere. A total of 213 persons applied, and 143 returned the completed questionnaires. Figure 4 summarizes the patient flow.

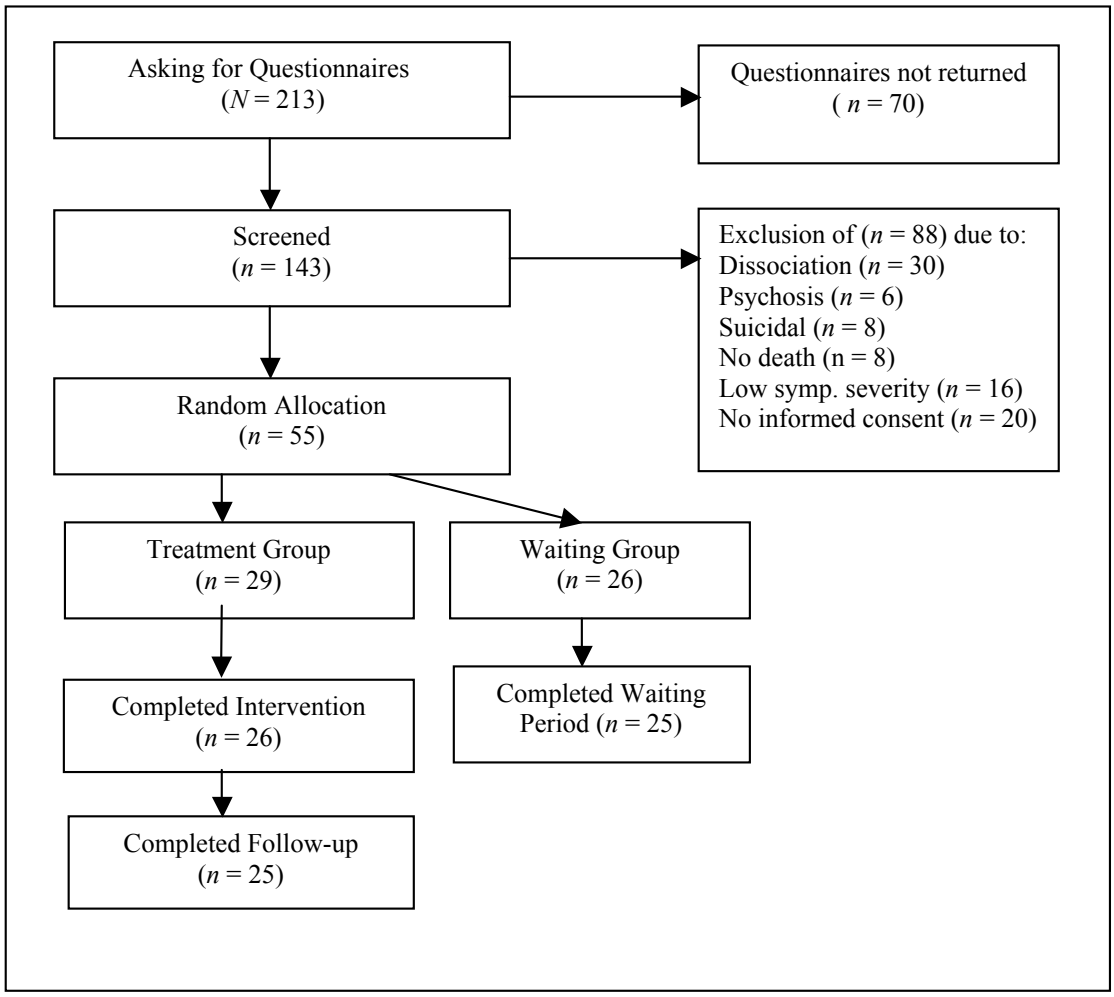
After the question of confidentiality was explained applicants returned the signed informed consent form. 55 (38%) patients fulfilled the inclusion criteria and had returned the informed consent. They were randomly assigned according to a random number system to the treatment condition (n = 29) and waiting condition (n = 26). Table 11 summarizes descriptive statistics on demographic and other relevant characteristics for the participants who completed the treatment and the waiting condition.

Table 11. *Demographics and Sample Characteristics*

Characteristics	Treatment group (n = 26)	Control group (n = 25)
Age, M ± SD, y	37.3 ± 11.7	37.9 ± 8.9
Time since loss, M ± SD, y	4.4 ± 6.1	4.8 ± 7.0
Female sex, n (%)	22 (84.6)	25 (100)
Marital status, n (%)		
Single	5 (19.2)	8 (32)
Partnership	16 (61.5)	12 (48)
Divorced	4 (15.4)	2 (8)
Education, n (%)		
High School	5 (19.2)	3 (12)
College	10 (38.4)	10 (40)
University	11 (42.3)	5 (20)
Cause of death, n (%)		
Disease	10 (36)	9 (36)
Accident	7 (28)	6 (24)
Suicide/homicide	5 (20)	5 (20)
Stillbirth/SID	4 (16)	5 (20)
Relationship with the deceased, n (%)		
Child	17 (64)	15 (60)
Partner	3 (12)	2 (8)
Brother/sister	1 (4)	1 (4)
Mother/Father	1 (4)	2 (8)
Relative	1 (4)	1 (4)
Friend	3(12)	4 (16)

There were no significant differences on any baseline variables between treatment and waiting condition. Scores for intrusion and avoidance (by Impact of Event Scale, see below) indicate that the majority of the participants had high distress levels (details in Wagner et al., 2005). Of the participants who began the treatment, 8% (n = 4) dropped out in the first treatment phase without providing posttreatment data, leaving a sample of 26 participants in the treatment group and 25 participants in the control group. The therapists who conducted the treatment were psychologists trained in cognitive-behavioral psychotherapy and had received special training in the application of writing assignments for the treatment of PTSD and complicated grief. The therapists also participated in weekly supervision sessions.

Figure 4. *Flowchart of participant progress*



8.3.2. Measures

Personal growth. The Posttraumatic Growth Inventory (PTGI, Tedeschi & Calhoun, 1995, 1996) is used to assess perceived benefits experienced after a traumatic or stressful event. We used a short form of 5 items which were related to personal strength, spiritual change, relating to others, appreciation of life and new possibilities. The items are rated on a 6-point Likert scale, ranging from 0 to 5. The 5-item short form correlates with the conventional 18-item PTGI total score $r = .94$ (Maercker & Langner, 2001). The internal consistency for the 5-item PTGI score was $\alpha = .42$.

Optimism. The Life Orientation Test-Revised (LOT-R) (Scheier, Carver, & Bridge, 1994) was used to assess dispositional optimism. The LOT-R is a 10-item (six target items and four fillers) self-report scale, measuring expectations about positive outcome in general, using a 5-point scale, from 0 (strongly disagree) to 4 (strongly agree). The alpha coefficient in this sample was $\alpha = .81$.

Complicated grief. Three symptom clusters measured complicated grief: intrusion, avoidance, and maladaptive behavior. *Intrusion* and *avoidance* were assessed by the Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979; Zilberg, Weiss, & Horowitz, 1982). The subscale of intrusion (IES-I, range 0 to 35) comprises 7 items and the avoidance subscale (IES-A, range 0 to 40) 8 items. The validation of the German version showed internal consistency coefficients between $\alpha = .75$ and $\alpha = .90$. Participants are asked to indicate the frequency of each symptom during the last 7 days on a 4-point Likert scale (0, 1, 3, 5). *Maladaptive behavior* was measured by 5 items selected from the larger revised symptom list for complicated grief (Langner & Maercker, 2005). The maladaptive behavior scale includes the following characteristics: trouble sleeping, feeling worthless, an altered sense of future, feeling lonely or empty. It showed a reliability coefficient: $\alpha = .76$.

Depression and anxiety. The subscales depression and anxiety of the short form of the SCL-90 (Brief Symptom Inventory, BSI, Derogatis, 1992) were used to measure the effects of treatment on psychological dysfunction in dimensions that are related to posttraumatic stress symptoms. The two subscales consist of each 6 items. Each item is rated on a 5-point-Likert scale (0 = not at all, 4 = extremely).

Mental and physical health. SF-12 (Ware, Kosinski, & Keller, 1996), a 12-item short form of the medical Outcome Study Self-report was used to assess physical and psychological functioning.

Working Alliance Inventory–Short version (WAI-S; Tracey & Kokotovic, 1989). This 12 item self-report questionnaire consists of three subscales: (1) the task subscale refers to the collaboration between therapeutic partners on specific, technical in-session behaviors; (2) the goal subscale refers to the degree to which the therapist and client agree on the desired outcomes of therapy; (3) the bond subscale refers to the degree of trust and attachment between the therapist and client.

Biographical Information Questionnaire (BIQ; Lange, Schrieken, Van de Ven, et al., 2000) was used for additional information, e.g. time passed since loss, cause of death, short description of the circumstances of the death, educational level, work situation, Internet experience.

8.3.3. Treatment

The treatment protocol comprised 10 writing sessions with two weekly 45-minute writing sessions. Based on the *Interapy* (Lange et al., 2000, 2003) Internet-based protocol, the treatment consisted of three treatment modules: 1) self-confrontation, 2) cognitive reconstruction and 3) social sharing. At the beginning of each phase, the patients received psycho-education on the principles of the treatment module. The treatment did not include specific content on bereavement (or post-traumatic) growth.

A comprehensive description of the procedure and the treatment protocol for complicated grief is given in Wagner et al. (2005).

8.4. Results

8.4.1. Treatment effects

Effect sizes were calculated using effect size index (Cohen *d*) for repeated measures (Cohen, 1988) as the change of the mean between pre- and posttest. By Cohen's (1988) standards for research in behavioral sciences an effect size $d = .80$ for treatment effects in psychotherapy (Lambert & Bergin, 1994) is considered large. Repeated measures designs within univariate analyses of variance (ANOVAs) revealed a significant group x time interaction for personal growth (PTGI), F (1,47)

=13,23, $p < .001$, $d = 1.16$. Separate ANOVA for optimism showed a significant effect for time F (1,48) = 9.97, $p < .01$, but no significant interaction effect, F (1,48) = 1.33, $p = .25$, $d = .50$ (Table 12). The working alliance rated by the patients improved significantly during treatment, F (1,23) = 14,65, $p < .001$.

Table 12. *Means and Standard Deviations of Outcome Variable by Treatment and Control Group*

	Pretest		Posttest	
	M	*SD*	*M*	*SD*
Posttraumatic Growth –PTGI [0-25]				
Treatment	14.92	(4.39)	19.46	(3.32)
Control	15.44	(3.77)	15.69	(4.44)
Optimism-LOT-R [0-40]				
Treatment	11.46	(3.97)	13.35	(3.44)
Control	12.28	(5.26)	12.92	(5.77)
WAI-Goal				
Treatment	5.71	(.77)	6.4	(.54)
Control	6.06	(.81)	6.34	(.76)
WAI-Task				
Treatment	5.54	(.79)	6.23	(.64)
Control	5.47	(.97)	6.00	(.93)
WAI-Bond				
Treatment	5.96	(.65)	5.80	(.87)
Control	6.04	(.84)	6.01	(.74)

Treatment group: $n = 26$, control group: $n = 25$. PTGI = Posttraumatic Growth Inventory; LOT-R = Life Orientation Test-Revised; WAI-Goal = Working Alliance Inventory, goal,-task-,bond-subscale.

8.4.2. Predictor Variables

To predict personal growth and optimism residual gain scores were calculated on each of the outcome measures. Each participant's residual gain score at each posttreatment assessment point was the deviation of the posttreatment score on that measure at the pretreatment assessment. Residual gain scores were reversed as appropriate, so that higher scores indicated greater improvement (e.g. greater reduction in depression as measured by the BSI). We correlated these residual gain scores across the patients of the study with mean PTGI scores at pretreatment and posttreatment. Table 13 shows the bivariate correlations between personal growth,

Table 13. *Means, standard deviations, and correlations of complicated grief symptoms (residual gain scores) and working alliance at post measurement with the Posttraumatic Growth Inventory (PTGI) (n = 25)*

	M	*SD*	PTGI Pretest	PTGI Posttest	LOT-R Pretest	LOT-R Posttest
Complicated grief and other symptoms (residual gains)						
IES-Intrusion	11.88	9.55	-.14	-.12	.02	.26
IES-Avoidance	10.72	10.07	-.41*	-.02	-.40*	-.10
Maladaptive Behavior	5.78	4.23	-.24	.07	-.19	-.01
BSI-Depression	5.72	3.76	-.16	.09	-.19	-.02
BSI-Anxiety	3.60	3.84	-.29	.27	-.16	.14
SF-12-Mental Health	4.41	7.32	.21	-.41*	.03	.24
Working Alliance (posttest)						
WAI-Goal	6.45	.54	-.50*	.06	-.39*	-.04
WAI-Task	6.24	.65	-.22	.10	-.27	.09
WAI-Bond	5.80	.87	-.39	.24	-.14	.11

Note. $n = 25$. Residual gain scores = pre-/posttreatment change; IES-A = Impact of Event Scale-Avoidance Scale; IES-I = Impact of Event Scale-Intrusion Scale; BSI-D = Brief Symptom Inventory – Depression Scale; BSI-A = Brief Symptom Inventory – Anxiety Scale; SF-12-MH = SF-12 –Mental health Scale; PTGI = Posttraumatic Growth Inventory; WAI = Working Alliance Inventory. * $p < .05$

optimism and the residual gain scores on the criteria variables. The initial level of personal growth and optimism was inversely significant correlated with the magnitude of improvement of the symptom of avoidance. In addition, the reported level of psychological functioning, measured with the SF-12-MH, inversely correlated significantly with personal growth at posttreatment. Only weak or no relations were found with initial level of personal growth and optimism for the other residual gain scores. The bivariate correlations between the therapeutic working alliance and personal growth and optimism are given in Table 13. The patient's ratings of the working alliance at the 10th treatment session and personal growth at pretest were inversely correlated. However, with exception of the relation between the WAI-Goal subscale and personal growth at baseline level, these correlations did not reach statistical significance. The same results were found for dispositional optimism.

8.5. Discussion

This controlled study examined effect of a cognitive-behavioral intervention for complicated grief administered via the Internet on personal growth and optimism. Previous results (Wagner et al., 2005) showed clinical and statistical significant reductions on complicated grief symptoms and general psychopathology. The question remained if this treatment was also able to improve the salutary aspect of subjectively perceived personal growth. The findings of the present study corroborate that this Internet-based treatment approach produces overall a significant increase in personal growth. This is in line with Calhoun and Tedeschi's (1998) contention that clinical intervention can help foster personal growth. Contrarily to our hypothesis and the findings of Antoni et al. (2001), we could not find increased optimism as result of the intervention. This might be because optimism is considered a stable dispositional trait in adults (Scheier et al., 1994). Another explanation could be that for the bereaved successful coping with irreversible loss does not lead to optimism. One way to attain improvements could be longer term or more intensive interventions.

We also wanted to evaluate if the extent of treatment success is associated with higher personal growth or optimism at pretreatment. A significant relation between personal growth at pretreatment and residual gain scores of avoidance was found. In other words, those patients who showed a lower level of personal growth at

pretreatment will have a higher reduction of avoidance symptoms. A similar relation was found for optimism with residual gain scores of avoidance. This result is in line with Antoni et al. (2001), who demonstrated that those patients who were least optimistic at the first assessment were the ones whose reports of benefits increased most over the period of the intervention. A possible reason for the stronger decrease of avoidance symptoms might be due to the self-confrontation at the beginning of the treatment. To confront highly painful feelings and memories may have elicited a subjectively perceived reduction of avoidance. However, it remains unclear why this result was only found for the symptom of avoidance.

Is the level of personal growth or optimism at posttreatment linked to treatment outcome? An association between psychological well-functioning and personal growth was found, whereas other prognostic values of predictive qualities of complicated grief symptoms are limited and did not contribute to the explanation of further variances. It appears therefore that the level of general psychological well-functioning has more impact on personal growth than other more specific symptoms of complicated grief.

We also explored whether client perceptions of the therapeutic alliance are closely correlated to personal growth or optimism. The results show that the therapeutic relationship could improve over the treatment time. This replicated the findings of Knaevelsrud et al. (2005), who showed that a positive and stable relationship could be obtained during an online therapy. Observing the baseline scores of personal growth and optimism we found for both an overall negative correlation with the goal-dimension of the working alliance at posttreatment. This may indicate that the lower the level of experienced personal growth at pretreatment, the higher the agreement between therapist and patient on the desired outcome of therapy. However, the predictive value concerning the patient's ratings of the working alliance on personal growth remained weak, indicating no substantial influence of assessed features of this relationship on treatment outcome. Therefore, working alliance may not be an essential factor in facilitating personal growth or optimism in Internet-based treatments. It may be that the highly structured treatment manual with specific elements to support personal growth plays a more important role than the therapeutic relationship itself. Thus, future research regarding moderating effects of therapeutic relationships on personal growth should be conducted.

8.5.1. Limitations

There are a number of limitations. First, the relatively small sample size may have provided insufficient power. Second, the generalizability of the findings: our participants were mainly female and were recruited through websites of different organizations which support e.g. bereaved parents and widowed partners. This might have lead to a fairly homogenous group of people who were already seeking help on the Internet. Generalizability to less motivated participants or male participants requires more research. Third, a potential limitation includes a primary reliance on participant self-report. However, the nature of online-therapies might make it difficult to provide different possibilities for assessment.

Despite the limitations, our results show promise for personal growth in the context of an Internet-based bereavement treatment. Future research will reveal which role the therapeutic relationship plays in the perception of benefit from bereavement. In addition more information is needed on the issue whether online therapies can enhance benefit findings.

9. General Discussion

In the past years CG as diagnostic criteria has become an important issue in bereavement research and only now have the first interventions aimed specifically at patients with CG been developed and evaluated. Research of bereavement-related issues is currently confronted with a number of challenges. First, the regrettable absence of diagnostic criteria for CG has greatly hindered clinical research, not only in terms of assessment and standardized diagnostic criteria, but also in development of specifically designed clinical interventions for the bereaved. Due to this missing standard CG as disorder is not well described and researchers used till now different criteria for bereavement outcomes, which makes the utilization of findings across studies difficult to estimate regarding their generalizability. Second, recent meta-analyses of bereavement interventions have shown that routine bereavement interventions aimed at 'normal' grievers show only small treatment effects or can even have a negative impact on grief-related symptoms. This is an alarming result, because a large number of interventions without documented effectiveness, aimed at unspecific groups of bereaved individuals, are offered by well-meaning organizations and therapists. Third, the prevalence of CG has not yet been satisfactorily established. Also here the use of different diagnostic criteria give imprecise prevalence rates depending on which diagnostic criteria the assessment was based on. And finally, while the use of new technologies, especially the Internet is already widely accepted and actively incorporated in the daily life of many bereaved individuals looking for information and social support, scientific research in this field is still lacking.

The study that has been described in the present dissertation aimed to develop and evaluate an Internet-based cognitive-behavioral treatment program for patients suffering of CG in a German-speaking population. It was a central aim of this study to assess the efficacy of this new treatment approach. The basis for this treatment was the *Interapy* treatment protocol for PTSD (Lange et al., 2000b). The study investigated the treatment outcome of grief-related symptoms, general psychopathology and salutary outcome variables, such as personal growth and optimism. Further, the impact of the therapeutic relationship on personal growth and optimism was an area of interest in this study. Aspects of the therapeutic working alliance and treatment satisfaction were evaluated.

To what extent these goals have been achieved will be the subject of discussion in this final chapter. Can an Internet-based treatment for CG be an effective method to reduce grief-related symptoms? Has this study any further implications for Internet-based therapies in general? Finally, after having considered the strengths and limitations of the study, we describe implications of future research that seem to be particularly promising in the field of bereavement interventions.

9.1. Efficacy of the treatment

Computer and Internet-based technology offer both supportive and informative delivery channels for psychotherapeutic interventions. To date, research focused on these innovative techniques has been limited, but existing studies have shown that Internet-mediated treatments are acceptable and can result in successful symptom reduction (Knaevelsrud & Maercker, 2005b; Lange et al. 2000b, 2001, 2003). While Internet-based therapies for PTSD (Lange et al., 2000b), burn-out (Lange et al., 2004), and depression (Lange et al., 2006) have already showed their treatment efficacy in a number of controlled trials, there existed no such treatment for patients suffering of CG. Therefore the current study aimed to evaluate the effectiveness of this new innovative technology-based treatment, based on a cognitive-behavioral treatment protocol.

The data of our study showed consistently with our hypothesis that patients in the treatment group displayed significant statistical and clinical improvement compared to the waiting list group. Significant reductions in the severity of the main symptoms of CG (i.e. intrusion, avoidance, failure to adapt) and in depression and anxiety were found. The treatment group showed large effect sizes from pre- to posttest changes and from pretest to 3-month follow-up. At posttreatment only 19% in the treatment group reported symptoms of intrusion and avoidance compared with 67% in the waiting list condition. After 3 months only 8% of the patients in the treatment group still reported these symptoms. However, also the waiting list control group showed low to moderate effect sizes, which could be explained by natural declines of bereavement-related symptoms. These findings clearly confirmed previous results concerning the efficacy of Internet-based treatment for treating PTSD, which were conducted with Dutch (Lange et al., 2000b, 2001, 2003) and German (Knaevelsrud & Maercker, 2005b) samples. Shear et al. (2005) found in their study,

which evaluated the treatment effects of a face-to-face complicated grief therapy, comparable results to our findings. Both treatment approaches involved exposure techniques for addressing trauma-like symptoms such as avoidance and intrusion, as well as restoration-orientated modules. Unlike many other bereavement interventions and theories the existence of symptoms such as avoidance and intrusion were not neglected; in fact they were specifically addressed.

The results as observed in the present study were overall positive and support the view that this highly structured and protocolled treatment approach results in beneficial treatment outcome of grief-related symptoms and general psychopathology. The symptom reduction could also be obtained three months after the treatment. The effect sizes are substantially higher than those reported in meta-analyses of the effects of bereavement interventions (Kato & Mann, 1999; Litterer Allumbaugh & Hoyt, 1999; Neimeyer 2000; Malkinson, 2001; Rosner et al., 2005; Rowa-Dewar, 2002; Schut et al., 2001) and of writing therapies (Meads & Nouwen, 2005; Stroebe, et al., 2005).

Going on from here, an important question arises: to what extent does this treatment approach differ from other bereavement interventions? And what are the main differences between the emotional disclosure technique and the present intervention? Focusing on the main differences compared with other bereavement interventions, several explanations suggest themselves for the beneficial outcome of this treatment.

First, the writing protocol originates from a theory-based cognitive-behavioral model, which was proven to be effective for PTSD. Trauma-like symptoms such as avoidance and intrusion were addressed through self-confrontation with bereavement cues and the phase of cognitive reappraisal focused specifically questioning dysfunctional thoughts, but also on restoration and life goals. Further, this treatment was aimed only at patients who suffered of CG or at high-risk mourners, such as bereaved parents (61%). The scores of the IES indicated that the patients suffered greatly. At pretreatment 70% of the patients were above the cut-off score for the combined avoidance and intrusion scales, and reported high levels of bereavement-related depression. The majority was grieving the death of their child, and 65% lost someone in a sudden, untimely or violent way. Also the time elapsed since loss, which ranged from 14 months to 29 years ($M = 4.6$; $SD = 6.6$), indicated that the heightened

level of dysfunction could exist for years post-loss and had a major impact on psychological functioning.

Another reason why this treatment has resulted in a relatively positive outcome might be due to the strong focus of feelings of guilt and responsibility of the death, which is especially salient for bereaved individuals who suffer of CG. This sense of guilt often includes feelings of contributing to the death by not recognizing the signs of illness or not speaking up soon enough (Rando, 1993, 1997). These thoughts appear to be especially prominent in bereaved parents or those affected by someone's suicide. Failings in the relationship with the deceased person also often evoke strong feelings of guilt and self-blame. In the phase of cognitive reappraisal patients were explicitly asked to openly explore their feelings of guilt. Here the anonymity of the Internet might have encouraged the therapeutic communication towards a high degree of disclosure. Privacy, and most inhibiting emotions seemed to have been overcome in the relative anonymity of writing (Lange, 1994). Our patients showed intimacy and honesty right from the beginning of the treatment. The experienced analogy of closeness and distance of the therapist might have helped the patient to confront stigmatized feelings and thoughts, which he or she might not have dared to communicate so easily in a face-to-face-treatment. Therefore, the possibility of an Internet-based psychotherapeutic intervention gives patients a greater and less stigmatized choice in service delivery.

An additional reason for the treatment outcome might be that the highly structured and ordered treatment protocol possibly enables the patients to gain a sense of control of their emotion. Similarly to patients suffering of PTSD, flashbacks, unbidden memories of the circumstances of the death or the deceased person are often uncontrollable for the bereaved individual. The predetermined amount of time and the exact schedule of the treatment add to an increased sense of control and gave the patients' emotions structure. Additionally, the time frame of the intervention might have positively influenced the treatment outcome. Whereas during the emotional disclosure intervention (Berry & Pennebaker, 1993; Pennebaker, 1993; Pennebaker, et al., 1988; Pennebaker & Klihr-Beall, 1986) participants were asked to write about the traumatic event for 3 to 5 consecutive days for 15 to 30 minutes each day, the writing assignments of this study were more elaborated, with specific treatment phases. The patients received writing instructions from their therapists, which reflected the

previous texts of the patient. Contrarily, the emotional disclosure technique usually does not provide any feedback. The length of the Internet-based treatment for CG, involving a longer time frame, might have additional beneficial effects. Instead of writing on only (on average) 4 consecutive days, our patients were asked to complete 10 writing assignments in a time schedule of at least five weeks. Though the emotional disclosure intervention, which has become widely established in the research literature, provided the original theoretical background for the Internet-based treatment for CG, the performance of these two treatment approaches differs widely. This might explain the different treatment outcome of the two interventions. Concluding, it appears that the length and intensity of the treatment as well as the personal therapeutic feedback make for a considerable improvement of treatment outcome.

Another important module of the Internet-driven treatment for CG, which is generally not used in bereavement interventions, seems to be the final treatment phase, which comprises the writing of a dignified letter to a significant person. A study with patients suffering of PTSD, which evaluated the efficacy of the three treatment modules separately (Schoutrop, 2000), showed that this final treatment phase added to additional long-term beneficial effects.

Additionally, our patients repeatedly mentioned the positive aspect of the transparency of the treatment process. The patients are able to provide a permanent record of their own experiences. During and after completion of the treatment the patient is able to re-read his own texts and the ones he got from the therapists. It is not only an excellent opportunity to follow the therapeutic process, but can be also a source of support for the client in the future. This advantage of the asynchronous quality of an Internet-based therapy provides patient and therapist with greater reflection and clarity in their communications (Lange et al., 2001). The therapist has the additional possibility to carefully formulate feedback and has the potential for pre-supervision (Lange et al., 2001).

Finally, another aspect of Internet-based treatments, which adds favorably to its feasibility, is that people have worldwide access to Internet-driven psychological services. Distance is, in the most literal sense, an obstacle to the availability of face-to-face interventions for all (Wright, 2000). Dispersed populations or disabled people

who were previously excluded from traditionally delivered services are offered the possibility of access to psychotherapeutic services.

9.2. Salutary outcome variables

Salutary aspects of treatment outcome have been always assumed to take place automatically in psychotherapy, but were seldom part of actual scientific research. Until recently those beneficial consequences of psychotherapy have not been regular objectives for evaluating the treatment effectiveness or success of the treatment. Traditionally the goal of psychotherapeutic interventions focused on the reduction of psychopathological symptoms. Therefore we were specifically interested to see whether an Internet-based intervention for CG was also able to improve salutary aspects of subjectively perceived personal growth and optimism. First, our findings indicated that this treatment approach results in an overall significant increase with regard to personal growth. These results clearly confirm Calhoun and Tedeschi (1998), who theorized that a therapeutic intervention could increase personal growth after experiencing a traumatic event. Further, we found that a reduction of symptoms of avoidance at posttreatment was related to optimism. However, there was no overall significant increase of optimism found at posttreatment. It is of interest that optimism and reports of personal growth findings were rather distinct from each other in this sample. One explanation could be that optimism itself is a relatively stable aspect of personality (Scheier & Carver,1985), therefore the treatment might have been too short for such changes. Although Tedeschi & Calhoun (1996) showed that optimism measured with the Life Orientation Test (Scheier & Carver, 1985) is moderately correlated to personal growth, they suggest that the construct of hope may be a more powerful predictor of benefit finding. According to them optimism involves expectations of positive outcomes and has a strong logical quality. Therefore, if the logical positive outcome is blocked, which would be the case in bereavement, the more ‘flexible’ outcome of hope would be easier to adjust to.

This Internet-based intervention for CG was not explicitly designed with benefit finding in mind. Therefore, an important question is, which elements in the intervention enhanced its beneficial effects on personal growth. Several components might have increased personal growth: these could for example include cognitive

restructuring and social sharing. An important goal of future research will be to determine which treatment elements might be the answer to beneficial outcomes.

9.3. The therapeutic relationship and treatment satisfaction

The patients of this study experienced the Internet-based therapeutic relationship as trustful and overall positive. The therapeutic working alliance improved significantly at posttreatment on all three subscales. These findings replicated the results of the study of Knaevelsrud & Maercker (2005a, 2005b), who evaluated the therapeutic working alliance of an Internet-based intervention for patients suffering of PTSD (*Interapy*). Surprisingly, the alliance ratings tended to be higher than in traditional face-to-face therapies (Hersoug et al., 2001) in both Internet-driven treatments. Positive experiences of the therapeutic relationship might also be expressed by the low attrition rate in this study. Compared with face-to-face treatments, the low attrition rate of only 8% suggests a high treatment compliance of the participants, which is, despite of the anonymity of the Internet and a structured treatment protocol, an unexpected outcome. Knaevelsrud & Maercker (2005b), in their Internet-based treatment for PTSD, reported an attrition rate of 16%, while Foa, Rothbaum, Riggs, & Murdock (1991) reported dropout rates of 28% in their face-to-face CBT for PTSD. The question needs to be addressed as to why patients feel so compliant despite the lack personal contact with their therapists. One explanation of the low attrition rate could be that patients who experience distinct stages for change during therapy (Prochaska, DiClemente, & Norcross, 1992), might feel, right from the beginning of the treatment, that the active writing contributes to a desired behavioral change. It might be possible that the contact with the therapist might only have a secondary function in this treatment approach.

Furthermore, we found that aspects covered by the Working Alliance Inventory (WAI) are not essential predictors in facilitating personal growth or optimism. Our assumption for this finding is that the highly structured treatment protocol with the specific elements to support personal growth might have more influence than the therapeutic relationship itself.

Interestingly, only very few patients showed dissatisfaction with the lack of personal contact with their therapists. More the contrary was experienced: the anonymity was often mentioned as an advantage of the method in order to be more

open to share their inner feelings. The evaluation of the treatment satisfaction suggests an overall positive patient-therapist relationship, and the fact that 82% of the patients described the contact between them and the therapists as personal underlines these findings.

This was the first study which evaluated the predictive role of the therapeutic alliance on salutary treatment outcome in an Internet-based therapy approach. Future research on the mechanism and process of the online therapeutic relationship seems to be necessary to obtain a wider understanding of which variables add to beneficial treatment outcome.

9.4. Diagnostic Criteria of Complicated Grief

As noted already in the beginning of *Chapter 9* the lack of standardized diagnostic criteria of CG hindered research in this area greatly. Prigerson, Maciejewski and colleagues (1995) developed a frequently utilized assessment tool, the Inventory of Complicated Grief (ICG), formerly named Inventory of Traumatic Grief (ITG) to assess CG based on the consensus criteria. However, the validity of this assessment instrument might be viewed critically, even though it is widely in use. The consensus criteria were tested on data of the San Diego Widowhood Study, in which the sample mainly consisted of spouses who had lost their partner through long-term illness; this led to the deletion of the avoidance symptom due to the missing fit of internal consistency. This might have been too precipitant in consideration of the sample. A sample of high-risk groups, such as bereaved parents and others who experienced losses in unexpected, untimely and traumatic ways would have been more appropriate to test consensus criteria to increase validity. This aspect might have seriously biased the results regarding the symptomology of CG used in this assessment tool. Hogan and Worden (2004) support these objections, and tested the diagnostic criteria proposed by the consensus expert panel with bereaved parents who lost their children either in a sudden or violent way. They showed that the basic criteria of the CG criteria following Prigerson and colleagues could not be isolated as distinct constructs.

Our study was based on the diagnostic criteria of Horowitz (Horowitz et al., 1997), in which the avoidance symptom as part of the stress response model plays a prominent role. The results of our study demonstrated that our patients showed high

levels of intrusion and avoidance symptoms, which supports the Horowitz model of CG.

Chapter 2 discussed the distinctiveness of CG and PTSD; a number of studies could corroborate this assumption (Melhem et al., 2001; Prigerson & Jacobs, 2001; Silverman et al., 2001). However, using the ICG as assessment tool, as was done in most of these studies, the question arises whether this does not automatically divide patients into those who suffer of PTSD and those who suffer of CG, since the measurement instrument of PTSD assesses symptoms of avoidance, while the ICG does not. Is the ICG really the appropriate instrument to differentiate CG and PTSD? Alternatively, which diagnostic criteria represent the disorder best to identify traumatic types of bereavement as well? The thin line between CG, PTSD and traumatic bereavement still does not seem to be satisfactorily investigated, and existing assessment instruments do not appear to be refined enough or not satisfactorily evaluated to give diagnostic consentient answers. Trauma and bereavement interface often in multiple ways, and a clear distinction is not always possible. More evaluation is needed where they overlap and why. The stress response model of CG (Horowitz et al., 1997) might include the diagnostic criteria which best mirror the relationship between PTSD and CG. The inclusion of symptoms of avoidance and intrusion in the diagnostic criteria reflects its close relationship to PTSD and therefore also to traumatic bereavements.

Researchers and clinicians are in urgent need of standardized diagnostic criteria, but the results of current research do not allow final conclusions, and there is still a great need for research in this field. It is likewise important to investigate the relationship between PTSD, CG and normal grief to determine whether or not they are distinct from each other, and in which way. Consequently, assessment instruments should be improved. Additionally, there is a need to conduct further studies to further differentiate between traumatic and non-traumatic bereavement. And finally, non-traumatic bereavement should be considered separately and risk factors of this group should be part of future research.

9.5. Ethical concerns

Internet-based therapies may lead to discussions about ethical concerns associated with diagnostic issues, legal responsibility in case of crises, the clients'

anonymity and safety issues. Unfortunately, ethical guidelines did not develop with the same velocity as technological innovations; therefore there are still no generally accepted legal standards on this new service delivery. Additionally, the missing state boundaries of the Internet add to open questions such as which countries' jurisdictional system can claim legal right in case of law violation. A number of key ethical issues will be described below.

First, a valid diagnosis through self-report inventories can be difficult, with the absence of physical presence and the lack of social and non-verbal signs like body language, eye contact (Barak, 1999). A wrong diagnosis because of absent personal contact can not only hinder the discovery of other disorders or diseases such as neurological problems, but also complicate the verification of age, gender and consumer disclosure (Alleman, 2002). Another serious point of concern is the security of patients' data, especially if exchanged via e-mail. This safety problem should be handled with care. Encryption should be used to protect the privacy of e-mail communications. Heinlen, Welfel, Richmond, and Rak (2003) discovered in their evaluation of 87 professional sites (40 of which included psychologists), that only 22% used encryption and only 57% discussed confidentiality. Another research study replicated similar findings in considering compliance of online psychological services with established ethical standards. Maheu and Gordin (2000) found in their study that only 48% of the clinicians (N = 56) working via Internet used a consent form before beginning their treatment, and that only 50% made preplanning for emergency backup services in the client's home community.

The International Society for Mental Health Online (ISMHO) promulgated *Suggested Principles* (2000) to set a guideline to improve quality care, even though there is no juridical power to sanction violators. These principles are divided in three parts: 1) *Informed consent*: The therapists explain prior to treatment the benefits, risk and existing treatment alternatives. The therapists inform the client about risks of online communication, such as possible misunderstandings. Further the identity and qualification of the therapists should be made transparent. The possibility to verify this information should be given. 2) *Standard operating procedures*: The clinicians disclose the limitations of their competences entailed by their licenses and qualifications. Here the confidentiality, the treatment process, frequency of text-exchange and cost of services are explained. All laws and regulations applicable to

their qualifications should be followed. 3) *Crises intervention*: Professionals are asked to develop an emergency procedure and discuss this with the client. Address and phone-numbers of the client's medical doctor in their community should be identified.

Many aspects of the ethics of Internet-based interventions and their research are still untested. Issues of helpfulness and harmfulness must be scientifically investigated in future research, with attention given to sample bias, non-respondents and limited generalizability in a number of cases. A clear understanding of risks and benefits associated with Internet-based therapies should be guided to enhance the process of ethical guidelines in this new field of technological development.

9.6. Limitations of the study

Some limitations of the study can indicate valuable suggestions for further research. First, psychological research mainly depends on sound assessment instruments to measure symptoms and function. The reliability and validity of our questionnaires to measure CG was not fully satisfying. A more accurate assessment instrument, which mirrors the proposed diagnostic criteria of Horowitz et al. in a more precise way, should be part of future research to replicate the findings of this study. Further, treatment outcomes were assessed with self-rated questionnaires administered through the Internet. Even though Internet administration of questionnaires has been found to deliver reliable and valid data (Anderson, Lundström, & Ström, 2003, Buchanan & Smith, 1999), there are concerns considering the need to obtain separate norms for Internet use (Buchanan, 2002).

Descriptive analyses of this research demonstrate additional limitations in respect to generalizability. The sample was culturally homogeneous and the participants were all originally from German-speaking countries (Germany, Switzerland and Austria). Reif, Patton, and Gold (1995) noted that individuals from various ethnic and cultural backgrounds might experience death and bereavement in different ways. Therefore, the results of this study should not be used to generalize experiences of other ethnic groups. Additionally, the factor of gender restricts the generalizability of this research. The vast majority (92%) of participants were female; therefore the results of this study do not necessarily represent the treatment outcome of men. Men have been suggested to grieve and cope fundamentally differently than women (Lang & Gottlieb, 1993; Vance, Boyle, Najman, & Thearle, 1995). Martin and

Doka (1996) noted that men, at the beginning of bereavement, experience their grief rather cognitively than emotionally, which is generally opposite of how women experience initially their loss. This is an important aspect to consider when providing bereavement interventions for both genders. Additionally, men typically value self-reliance and prefer to grieve alone (Martin & Doka, 1996), which might explain the low participation rate of men in our study. These important differences must be taken into account when results of bereavement interventions are interpreted. In our study men were widely underrepresented, and future research should investigate if bereavement interventions specifically developed for male bereavement would increase treatment participation and result in different findings.

The final restriction to generalizability of the results again concerns the sample, which might be also a self-selected group in regards to Internet access and basic computer skills. Even though an increasing number of people in German-speaking countries have access to the Internet, it remains unclear whether this is also the case with patients who suffer of CG. Therefore the findings should be used with care when compared with clinical populations.

9.7. Challenges of Internet-based interventions

The Internet holds many promising innovative possibilities for the development of psychotherapeutic interventions. However, there are a number of limitations, which must be addressed. Important aspects have been already outlined in *Chapter 9.5.* in which ethical concerns were described, such as confidentiality, crises intervention and security issues. In the following we will shortly summarize central challenges of Internet-based interventions.

First, Internet-based interventions do not suit all patients, and some people may prefer face-to-face contact to computer-driven contact. Patients who are suicidal, psychotic and dissociative or abuse drugs or alcohol should be not treated via the Internet, but rather in a face-to-face setting. Online relationships differ fundamentally from face-to-face relationships, as obviously especially anonymity is enhanced by the Internet. McKenna and Bargh (2000) demonstrated these effects in their review of Internet-based interventions and research. Anonymity can lead to a disclosure of very intimate information more quickly than in face-to-face interventions. This aspect of online relationships could be compounded by the fact that online relationships

eliminates the role that physical appearance plays in relationships, which can hinder individuals from disclosure for superficial reasons (McKenna & Bargh, 2000). However, it must also be acknowledged that this anonymity also can be a disadvantage. For patients who suffer of complex psychological disorders or certain severe traumas the development of a trusting personal therapeutic relationship, which might require a considerable time to develop, can be an important therapeutic element of benefit. Additionally, the treatment of these disorders would be too difficult via Internet, since immediate crises intervention is not given.

Another aspect presents the lack of non-verbal cues, which might have a potential therapeutic consequence (Rochlen, et al., 2004). Visual cues and facial expressions can help in better understanding what the client actually means (Childress & Asamen, 1998; Mallen, Day, & Green, 2003). Instead, to express undertones and emotions clients often add parenthetical remarks to their texts such as smilies and photos, which, which in personal contact would not have been necessary (Tate & Zabinski, 2003). Normally the therapist is trained in verbal communication; in Internet-based therapies the only tool to express this lies in the ability to transcribe their meaning in text-based writing instructions. This requires training, and if a therapist is not comfortable with this medium, it is essential that necessary qualifying steps should be taken. Another limitation is misunderstandings through different interpretations of text, which occur in the absence of spontaneous clarification (Knaevelsrud et al., 2004). The clients' mood can affect the way they interpret the text of the therapist.

Additional limitations of Internet-programs are technical problems of various reasons (i.e. server, computer, e-mail account), which can interfere with program continuity. Finally, it is important that professional and commercial standards can influence the delivery of therapeutic online services. Researchers might not be independent and may have conflicts of interests, particularly financial ones (Kaltenthaler et al., 2004). Results with negative outcomes might undermine the marketing of new technological treatment products and therefore not be published (Emmelkamp, 2005). For that reason, independent researchers should conduct controlled studies.

9.8. Future directions

The promising evidence shown in this study provides reason to believe that a cognitive-behavioral Internet-based intervention for CG is acceptable to patients. This new treatment alternative leads to generally favorable outcomes that are the same or even more effective than those associated with face-to-face bereavement interventions. However, many research questions remain unanswered to date. Several suggestions for future research on bereavement interventions can be made.

First, the improvement of measurement instruments and successive research of diagnostic criteria of CG is highly recommended. For instance, none of the diagnostic criteria include feelings of guilt. However, most of our participants showed a strong sense of guilt and addressed these feelings openly in the phase of cognitive-restructuring. Research should explore if this aspect of bereavement should not be included in future assessment instruments to help identifying CG. In addition, avoidance symptoms of patients with CG should be further investigated with focus on traumatic and non-traumatic bereavement. Another aspect considers the recruitment of the samples. Most bereavement studies have recruited mid-to late-life widows and widowers. Research should in future target different populations which give a better representation of potential high-risk groups of CG or demographic differences (Lichtenthal et al., 2004). Another important issue of research is the differentiation between CG and PTSD and the question if there are subtypes of CG (Lichtenthal et al., 2004). The nature and diagnostic criteria of traumatic and non-traumatic types of bereavements show room for further refinements. It might be possible that evidence suggests that traumatic bereavement cannot be subsumed under the diagnostic criteria proposed by the consensus expert panel.

We have shown in our study that a cognitive-behavioral intervention with modules specifically aimed at patients who suffer of complicated forms of grief can be beneficial. But still there are possibilities of improvements of the treatment protocol. Likewise it became obvious as discussed already in *Chapter 9.6.* that men and women grief in different ways. Therefore additional psycho-education about gender-specific ways of coping after bereavement and enhancing the communication between male and female family members who have lost a significant person, seems to be important.

Additionally, while for example guilt feelings were a central theme during the treatment, there was no specific focus on anger or hostility. We noticed that a large number of patients experienced high levels of anger, irritation and feelings of being treated unjustly. Sanders, Mauger, and Strong (1985) reported that experiencing anger and hostility tends to be especially prominent with bereaved parents. These negative emotions often lead to problematic social relationships, or the loss of social support. Thus a particular focus on clarifying feelings of anger and hostility could be beneficial. A similar issue concerns divorced families. In our sample a number of bereaved parents had divorced their partner before the death of the child, or lived in a hostile family situation. This adds to considerable difficulties in their bereavement process (Kissane, 2005). A specific treatment module with respect to this specific family situation would give such patients additional benefit.

Another suggestion could be enhancing daily structure in the treatment for patients with CG. This might be not only useful in psychological aspects, but also from bio-behavioral functioning. Research has demonstrated that the frequencies to perform simple daily activities and the regularity, with which these activities are performed, are important parts of circadian rhythms. Deregulation of these systems can result in dysphoric emotions (Monk et al., 1994). Monk, Houck, and Shear (2006) investigated in their study that individuals suffering of CG are more likely to miss out social contacts, meal times, starting work and outside activities than healthy control participants. An additional treatment module could for example require a daily schedule involving daily activities in combination with recording their moods to increase activities and a more regular day structure.

A current study of an Internet-based prevention-program for bereaved individuals who lost a close person in the previous 14 months (Wagner & Maercker, 2006) which is based on the findings this dissertation incorporates already a number of the above-mentioned suggestions. The intervention consists of the following modules: (1) describing the circumstance of death of a significant person, (2) life-imprint method to explore the biography and life imprint of the deceased, (3) daily diary reflecting social activities and sleep hygiene, (4) cognitive restructuring of dysfunctional thoughts such as responsibility of the death and feelings of guilt, (5) communication within the family, (6) gender-specific coping of bereavement, (7)

bond with the deceased. The efficacy of this protocol will be investigated with respect to treatment outcome.

Other suggestions regard the evaluation of the different phases and their efficacy of the treatment manual. The treatment protocol comprises three modules: self-confrontation with bereavement cues, cognitive reappraisal, and integration and restoration. It would be useful to reveal the relative contribution of all of them in an experimental design when manipulating each of these variables. Individual-difference variables that could predict treatment success using the Internet-based intervention for CG might also be of research interest. For example, it is possible that individuals who experience less social support would particularly benefit more from this treatment approach.

When examining Internet-based interventions, computer-based therapies offer excellent possibilities for psychotherapy process research. The treatment manuals can be specified and the texts of the therapists and clients are reproducible. A qualitative evaluation of the texts could give additional information regarding cognitive structures of coping during the therapeutic process.

Further research is also needed to compare Internet-based interventions with comparable face-to-face treatments in regard of cost-effectiveness. Do Internet-mediated treatments really reduce therapist time? How high are the costs of computer treatment software and the administrative and clinical facilitators?

When examining the efficacy of an Internet-based bereavement intervention it would be of particular interest if the same treatment protocol conducted in face-to-face therapy could replicate these findings. Since there is so far only one face-to-face treatment specifically aimed at patients with CG (Shear et al., 2005) our treatment approach could be also a suitable procedure in a face-to-face therapy.

Eventually, the final suggestion regards an encouragement of a debate on ethical concerns considering bereavement interventions. Contemporary research has shown that bereavement interventions are only needed and effective for a minority of high-risk bereaved people and should not be offered in a routine way. But still a large number of well-meaning bereavement programs, counseling programs and therapies are offered which often lack a scientific background. Therefore, bereavement therapists and counselors should base themselves on theoretical-based and scientifically established curricula and ethical guidelines to guarantee a high

professional standard, as it is normally the case in treatment of other psychological disorders. The development of such curricula and ethical guidelines should be one of the aims of bereavement researcher in future.

9.9. Conclusion

Three major conclusions can be drawn from this study. First, our findings support that an Internet-based bereavement intervention is an effective treatment approach to reduce grief-related symptoms and to increase personal growth. The anonymity might have enhanced the confrontation of guilt and shame related feelings, which added to an increased openness. Additionally, the accessibility and cost-effectiveness of the Internet creates an advantage compared to clinically based face-to-face-treatments.

Second, the cognitive-behavioral theoretical background might have contributed positively to this beneficial outcome. Cognitive-behavioral techniques such as exposure and cognitive restructuring call for thorough assessment and carefully applied interventions. The results of our study demonstrated that a carefully conducted treatment protocol reveals to positive outcome in a relatively brief period over the Internet. Third, the therapeutic working alliance was rated high and experienced even stronger than in comparable face-to-face interventions. It remains unanswered how the phenomenal representation of the online relationship between patient and therapist is constituted.

More research is needed to replicate our findings and to test potential moderators of treatment outcome. Additionally, future research should continue to refine diagnostic criteria of CG to help clinicians effectively to diagnose and treat these symptoms.

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